

THE MINING AND METALLURGICAL JOURNAL.

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LOS ANGELES, CAL., JANUARY 1, 1897

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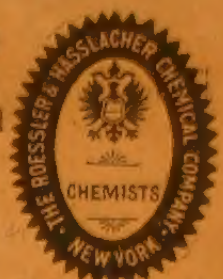
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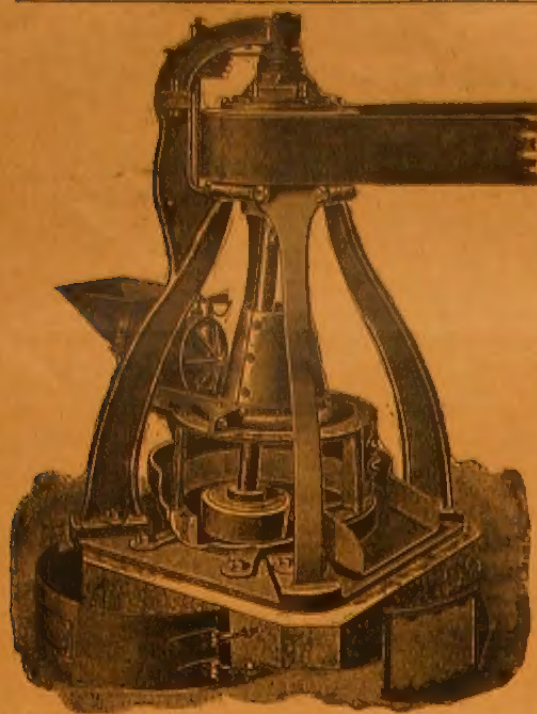
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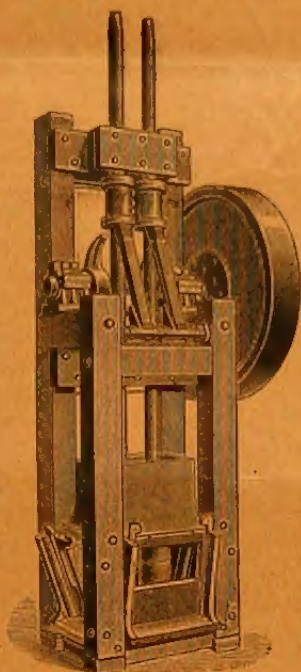
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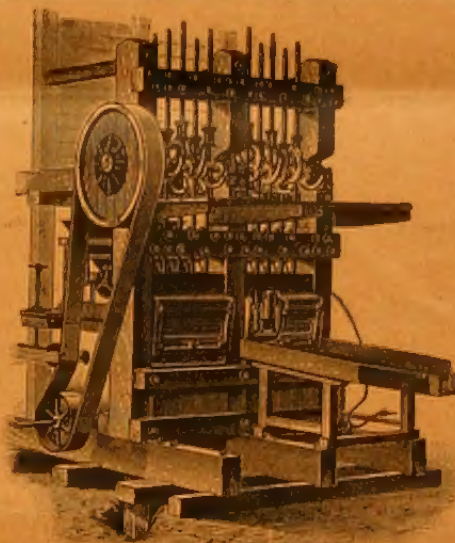
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THE CUBAN QUESTION.

That sentiment in the United States in favor of Cuban independence is nearly universal among the people, has been manifest from the inception of the insurrection. It could not have been otherwise unless the love of freedom has declined in this country and is on its way to extinction. The general feeling, too, is that the government has not acted with the proper spirit towards the Cuban patriots. Expressions of sympathy are consoling and may be encouraging to a people struggling for freedom, but substantial aid is what is wanted. Recognition of belligerency would have afforded material assistance without giving Spain a *Casus belli* or reason for complaint even. If a nation cannot be a judge of the time when, and the circumstances under which belligerent rights should be granted, then it has no independence. To have taken that step our government would have aided the cause of liberty and humanity. When a people are granted belligerent rights, they are entitled to be treated in accordance with the laws of civilized warfare, they are entitled to a cartel in the exchange of prisoners, and if the Cubans had gained such a right a vast amount of cruelty and barbarism in the treatment of prisoners would have been averted.

The question is often asked do the people of Cuba possess the intelligence and virtue necessary to enable them to govern themselves. Probably they are not the fittest people in the world for self-government, and the experiment would undoubtedly be attended with blunders and perhaps crimes, but their condition could hardly be more deplorable than it has been under Spanish rule. It should not be forgotten that every people in modern times who have undertaken government of themselves have gradually improved, but under monarchical or aristocratical government they have progressed but in few instances. Since their separation from Spain every Spanish-American people have become better able to govern themselves than they

were at first, though the improvement has been at a snail's pace. Even in Santo Domingo and Haiti there has been progress. It cannot be expected that any race or the branch of any race possess the elements indigenous to the Anglo Saxons for successful self-government. Lying almost in sight of this republic and having our example constantly before their eyes, the Cuban people have better means of learning what is necessary to wise self-government than if they were less favorably situated. Besides, the bulk of Cuban trade would be with this country, as we need what that country produces and the Cubans need what we produce. Contiguity would compel the freest possible intercourse and interchange of commodities. Our aid in their life and death struggle with the Spanish monster of oppression and cruelty would cause the Cuban people to remember us with gratitude.

But for the Spanish prohibitory duties on bread stuffs and provisions imported by the Cubans, we would have supplied them with many million dollars annually of our surplus agricultural products. These duties were imposed primarily to supply the impoverish exchequer of the home government, and incidentally to benefit Andalusia and other agricultural sections of Spain. Thus the rich resources of the western hemisphere have been used to sustain decaying and behind European people and government. Sympathy for those struggling for liberty and self-government, devotion to the cause of humanity and commercial interests conspire to develop and consolidate American sentiment in favor of the success of the Cuban patriots.

It is not only a right which a nation has to protect its own commerce, but it is a high duty. Spain ought not to expect our government to look on complacently while our commerce is suffering serious injury and she butchers a people striving for liberty.

GUARDS NECESSARY AGAINST ABUSES.

Should the scheme to retire the greenbacks, and confer on National banks the sole power to supply the country with paper money, be adopted it will be necessary to provide against expansion or contraction that will be detrimental to the business interests and the people. Saying this does not indicate unjust suspicion of the virtue of bankers. What they will do in their own interests has been too many times expressed in their actions. No business in the world is so dwarfing of regard for humanity as money changing, a fact proved by all the history there is of the human race. It is true that business of all kinds must be conducted on principles unchangeable by philanthropic conditions, but because this is so there should not be that cupidity and hard-heartedness which peculiarly characterize the banking and money changing business. The National banks have already shown their disposition to subserve their own interests at the sacrifice of the public welfare. From 1882 to 1891 inclusive they contracted their circulation \$180,000,000, and for no purpose but to keep down the money volume. Through silver coinage the volume was being increased \$24,000,000 annually, and hence the banks took steps to offset that as nearly as they could by retiring their own notes which amounted on the average to \$20,000 per annum. If given absolute power to supply currency the banks will be sure to keep the volume so small that they can derive the largest profit.

If that dire event should happen the banks

should be required to put up bonds to the full amount of their capital stock, and issue notes to the full face of their bonds and keep them in circulation, and any retirement of notes except for going out of business should be cause for forfeiture of charter and privilege to be judicially declared at the suit of any citizen, and also in case of failure, in the opinion of the secretary of the treasury, to supply an adequate volume of currency, he shall have power to issue treasury notes to such extent as may be necessary to make up the deficiency. To supply the people with an adequate volume of money is the prerogative and duty of government which cannot be delegated without danger to the public.

WE HOPE IT IS TRUE.

A report comes from St. Louis that a movement is on foot there to establish a mammoth glass manufacturing plant, which shall be kept out of all trusts and combinations, and whose products are to be sold in the market on the competitive principle. There have been so many trusts and combinations formed by capitalists to control production and to exact unnatural and oppressive prices from consumers that the country had come to think that men of money were enemies to the masses, and such methods on their part have had much to do in arousing a spirit of hostility to capital and capitalists.

We sincerely hope the St. Louis movement as reported will succeed. It will be the breaking in of a light of hope that the country will be relieved from the reign of trusts, and that the great disparity in the possession of wealth will gradually be reduced, so as not to be a menace to popular liberty. Capital should learn wisdom, which is to be content with a not unreasonable profit. Nothing will more promote confidence, and a condition of contentment on the part of labor, or add so much to enterprise and the development of industries, without which it will be impossible to give the largest measure of employment to the people of this country. In the end, capital will not be exposed to the hazards to which it has been subjected on account of its exorbitance.

DOES GOLDISM CIVILIZE?

Advocates of the single gold standard often say that gold is the measure of exchange in civilized countries and silver the standard money in uncivilized, half-civilized, or, to be more moderate, in nations not in the front rank of advancement; and, we may draw the conclusion from what they claim that gold has a talismanic influence in promoting the progress of civilization.

If this is so what a misfortune it has been that its influence in the direction named was not discovered many centuries ago, and that the world groped along in ignorance of what would have caused mankind to reach the highest possible degree of civilization, if not at a bound, certainly with a far greater rapidity.

Except discoveries in electricity, chemistry, mechanics, in destructive weapons of war, and a few other things in the material world, there is now no more apparent civilization than there was eighty years ago when the gold standard was first adopted by any nation. There is not now any more honesty in business, nor social morality, nor regard for human happiness, nor greater literary ability than there was when Great Britain excluded

silver as a standard value and made gold the autocrat in all business and monetary affairs.

What nation, whether in Europe or America, has advanced so rapidly in civilization as Japan? Less than fifty years ago, the Japanese walled themselves in against all the world, and to all nations that country was a *terra incognita*. This people were ignorant of the forms of government in all other countries, of financial and industrial systems, of mechanics, navigation, and of military and naval organization, and of the science of modern war. In less than a half century, Japan, in all the fields mentioned, has gained a position but slightly inferior to the uppermost, and she has been and is exclusively a silver nation, and no other nation is more rapidly gaining wealth. Mexico is progressing more rapidly in civilization than any other American state, and she is a silver nation.

Has civilization in Great Britain progressed more rapidly since 1816, or in Germany since 1871, or in France since 1872, or in the United States since 1873 than before? We would be glad to have a goldite point out in what respect, for we are unable to discover that it has progressed with accelerated velocity. If to bring about a condition, which today exists in Great Britain, where one-tenth of the population possesses nine-tenths of the wealth of the country is evidence of a high degree of civilization, we concede goldism has a great civilizing power, or, as in this country where a few are very rich and the many are poor, then goldism has produced a towering civilization; but we do not consider such results as progress but as retrogression, and as an evidence of a downward tendency towards barbarism, instead of a tendency upward towards a higher civilization and enlightenment.

The argument in support of a titled and endowed aristocracy is that the world may have the benefit of a class of idle but cultured gentlemen. What benefit an aristocracy is, whether based on titles, privileges or wealth, or all of them may be comprehensible to those thus favored, but it is utterly incomprehensible to those who believe in human equality and the happiness of the general mass of the people. A money measure, too small for the wants of a people, which checks general enterprise and discourages industry on the part of the masses, giving control of the best-profit-yielding enterprises to the few, cannot be civilizing, for oppression in every form and unnatural inequalities are absolutely incompatible with Christian or human civilization. Knowledge is an element of civilization, but it must be under control of just principle or it will be barbaric. It is a liberal money system, one that supplies adequacy to the money volume that is civilizing, instead of a narrow and pinching one. Scarcity does not make sound money, nor does a sufficiency unmake it.

LOS ANGELES AND SAN BERNARDINO RESERVATIONS.

Our recent editorial in reference to these Government Forest Reservations has been acted on by those interested in mining claims within the reserves, by having a petition signed and sent on to Washington during the past week, requesting that the reserves be thrown open to mining and prospecting operations, of which the following is a copy:—

"To the Congress of the United States: We, the undersigned citizens of the counties of Los Angeles and San Bernardino, respectfully represent that,

"Whereas, there are numerous citizens of the United States who have hitherto located placer and quartz mines in and upon the San Gabriel and San Bernardino government reserves, in the counties of Los Angeles and San Bernardino, in the State of California and did not have recorded said locations prior to the issue of the proclamation by the President of the United States declaring all reserves closed for all purposes including mining; and, whereas, there is a large area of said government reserves that are rich in gold, silver and copper deposits,

"Therefore, we respectfully petition Congress to pass an act authorizing the President of the United States to issue a proclamation declaring that said reserves shall be open to prospectors for gold, silver and copper, and to make locations and mines as upon any other government land of the United States and under the mining laws of the United States."

On account of the short notice given to those interested, and the haste required to have the petition in Washington in time to have it acted on at this short session of Congress, it was only signed by some one hundred and fifty names, and many who desired to sign it were disappointed at not being able to do so, on account of the short time it was in circulation. As we remarked before, mining operations and the preservation and re-foresting or re-planting of these reserves do not conflict. Under wise and proper regulations in European countries, both these interests go on in perfect harmony together, and the best mineral territory of Los Angeles and San Bernardino counties is too large and important a factor in our industrial development to have these large areas closed to mining and prospecting.

CORRESPONDENCE

CALIFORNIA.

ISABELLA, KERN CO., Dec. 20, '96.

EDITOR JOURNAL:—A most marked revival continues in the gold mining industry in this section. The Old Keys mine, which has remained closed for so many years, has now passed into the hands of the Colorado Gold Mining and Development Co. and a large force of men are employed on it, preparing to re-open the great bonanza, which in the early fifties made this region noted. This Company has negotiated terms for seven other mines and it is confidently expected will be employing from fifty to one hundred men within the next three months. The developments of this Company, both on the Old Keys and Three Chimneys are very flattering.

The Los Angeles Gold Mining Company has about completed its new mill, erected on the banks of Kern river about two miles below this place, and will soon solve the problem as to whether the vast bodies of low-grade rock in the Mammoth mine at Keysville can be made to yield a profit. This Company has constructed an expensive dam across Kern river and is prepared at short notice to give their mill the greatest capacity possessed at present by any mill in the county. This Company is securing options on bare ore properties in the vicinity which carry most of their gold in the sulphurets.

The custom mill at this place is kept running night and day. The Spangler Bros. have twenty mules and four wagons employed hauling rock from their Gold Point mine, seven miles east of Garden Station on the desert. The fact that a long haul seems to

have settled down to a permanent business shows that they must have good mines on the desert, yet with all the noise about desert mines. I have from undoubted authority that the mines of this immediate vicinity, which bring their rock to this mill, average a yield of more than double the amount to the ton of average yield of rock brought from the desert. It is a mistake to say that any of this rock is milled at Kernville; of the two batteries occasionally in use at that mill neither are at present run on custom ore.

Truthful, Brown & Co. of Washington district, five miles below here, have had another run of sixteen tons of rock crushed from their mine and have again realized over one hundred dollars per ton, and have gone to San Francisco to inspect the mint and celebrate holidays.

A telephone line is projected from Caliente to this place and is expected that it will be continued through the South Fork Valley and to the desert.

Most of the Keysville mines have no crop-pings, but a clay seam, and on narrow veins worked for high-grade ore. For thirty years most of the gold of this district has been taken out by horse arastras and are met with on every hand.

The most noted sulphuret mine in this vicinity is known as the "Portuguese," in the Washington district, about six miles below here. It has never yielded more than about sixteen dollars per ton in pure gold, but it carries a high percentage of sulphuretes, a portion of which are known to be very rich, and all of which have heretofore been run into the river.

Respectfully,
STEPHEN BARTON.

ARIZONA.

ORO BLANCO, Dec. 16, 1896.

EDITOR JOURNAL:—I congratulate you on your article relative to Camp Floyd District, Utah, in JOURNAL of Dec. 1st.

Present conditions in Oro Blanco District as follows:

Montana—Mill not running, but it is reported development will be resumed in the mine before long.

Old Glory—Running 20 stamps with good results, and will start to more as soon as the water supply is ensured. Additional concentrators are being put in, and cyanide tests for making the tailings will soon be made on a large scale.

Tres Amigos—Running at a profit, although the power is not sufficient to run the mill to more than one-third capacity.

Oro—Under the new management the mill is reported to be doing excellent work.

The copper veins about 8 miles east of Oro Blanco, abandoned during the Indian troubles some years ago, are now being prospected again with good results so far.

Yours truly
C. W. KEMPTON.

COLORADO.

BOULDER, COLO., Dec. 23, 1896.

EDITOR JOURNAL:—The gold camps of this county have increased the output over last year \$65,148, which may be regarded as doing first rate under existing circumstances. There has been an enormous amount of development carried on in every mining district independent of mineral production for the present, but next year this work will be of wonderful advantage and the output of the precious metals must necessarily be greatly

augmented. During the three years of 1894, 5 and 6 the output was as follows:

1894.....	\$1,251,568.70
1895.....	\$1,583,946.28
1896.....	\$1,649,094.28

This is a pretty good showing for a county that has received less outside capital to develop and prosecute its mining industry than any other in the great state of Colorado.

Until within a short time, say about two years, our mines were operated extensively by home capital, with a very few exceptions. The best paying mines, with only one exception, have been those when the miners have taken pieces of ground on tribute, paying large royalty to the owners. Such properties are operated economically, and have no high salaried agents to pay, with expensive rigs and elegant offices. The miners can and do attend strictly to business, and are making money to provide the necessities of life for the family.

The last fortnight Bob Emmitt and partner mined over 100 pounds of first class ore from their lease in the Golden Age mine that will run over \$25.00 per pound. The ore is magnificent, composed of fine gold and sylvanite which the miners separate by panning, by means of adding quicksilver to catch the fine gold. The concentrates from such ore run about \$3.00 per pound.

Hon. W. H. Patton, County Commissioner elect, brought down from his lease on the Victor mine, Springdale, a small batch of ore that will give him \$500 clear. Mr. Patton says mining pays him better than his commissioner's office, and informed your correspondent that he realized from one pocket on the same vein over \$14,000, and thought it was all worked out until he discovered the present chute of mineral, which he hopes will be as lucrative and from which he may make just as much money.

A. D. Alkire, superintendent and part owner in the Loveland mine on Left Hand, made a big shipment of ore to the Chamberlain sampling works last week. The first class yielded 122.60 ounces gold and 24.85 ounces silver per ton. Second grade ran 8.25 ounces gold and 4.75 ounces silver a ton, which would be regarded as pretty good ore if mined in any other than Butler county.

Capital is finding its way in the developments of our properties which have been purchased by foreign and eastern capitalists and mining enthusiasts. Possibly no sale that has been made of importance is more to the point than the Emancipation property to an English syndicate by Prof. Bert Langridge. During his stay of four months in London the statement was frequently made that "Americans keep all their best mines for themselves, and only send over their worthless properties for British investors." When he returned home the opportunity occurred of securing the old bonanza Emancipation and adjoining claims, and notwithstanding that he could easily have raised the capital in this country to purchase them, he decided to send the property to his London friends, Dr. Conner and others, to handle. The marvelous richness of the mines induced others to join him in buying the property. The Emancipation mine is known to be one of the richest that has ever been opened on this continent; the smelter returns for eight years showing shipment that ran as high as \$86,000 per ton.

Long and costly (50,000) litigations over mine crossings closed and flooded the mine for years. Happily all conflicts are at an end and the various interests are thoroughly harmonized.

During the past two months vigorous work has equipped the properties with new buildings and machinery which will soon remove the water, and in a short time will be in full swing and once more demonstrate its right to rank as the leader in this country. The water has been "forked" to the 250 foot level and shipments have already been made from the upper levels that give smelter returns as follows:

First class ore.....	\$30,000.82 per ton
Second class ore.....	\$9,411.33 per ton
Second class ore.....	\$9,164.62 per ton
Third class ore.....	\$277.76 per ton

and as these results are from considerable tonnage shipments, the mine is steadily proving itself to be fully as valuable as the most sanguine hopes could wish.

Mr. Langridge expects at no distant day to pay dividends right along that will satisfy his "British cousins" and induce them to invest further in our "best American mines."

The great Dew Drop property at Ward is in wonderful ore. The level is one mass of sulphide mineral that runs about \$1,100 by the car load as shipped to Denver smelters.

The main ("bon") tunnel has been run near 1,100 feet into the mountain, exposing immense bodies of mineral for concentrating and smelting which must return the company large dividends on the capital invested.

The mining is done by machine drills, and there is no better equipped mine in Boulder county than the Dew Drop property. A magnificent mill has been built by the management to treat the immense pile of mineralized matter the property produces, which will be started in the spring.

WM. M. RULE.

Miscellaneous Mining News.

ARIZONA.

Iowa and Chicago parties have recently purchased a group of mines near the Cherry Creek camp, near Jerome, Ariz. A five-stamp mill will be erected. There is a three-foot vein of ore, running from \$20 to \$150 a ton gold.

A Kingman exchange says the Connor and Minnesota mines are both showing up well in silver and gold ore. Fourteen men are now employed, but the 10-stamp mill is not operated all the time on account of an insufficient water supply. Settling tanks are now being built, however, which will permit the same water to be used several times. When the tanks are finished the mill will be run continuously.

The middle of last month, Prof. D. P. Barnhart left Kingman for the Colorado river, where he and a party of monied men expect to operate a plant which the Professor asserts will save every particle of fine gold known to exist in such large values in the sands of the bars and river bed of the Colorado. A plant capable of handling 400 tons a day will be put in immediately. The sand will be raised by means of huge steam shovels. If this machine will do one half what Professor Barnhart claims, it is worth millions. The sands of the bed of the Colorado river, from the mouth of the Grand Canon to Yuma, are known to contain large values in fine gold. No process so far tried has been successful in saving it in paying quantities.

P. A. Lefgreen of St. David, in Cochise county, informed the *Prospector* (Tombstone) that he had struck oil Saturday, December 19th, on his place, while drilling for artesian water. The drill encountered the oil at a depth of 290 feet. It is of a dark yellowish color, about the consistency of sorghum molasses, and burns readily when ignited, and while burning has the unmistakable odor of coal oil.

The Planet-Saturn Mining Company will have their new plant ready to run about January 1.

During his visit east, Nick Galles bought a new mill for the Chicago Gold Mining and Milling Company's property on Cherry creek.

The new Empire smelter at Rollin, near Crittenden, will give a great impetus to mining in the southeastern portion of Pima county.

W. R. Wemple came into Phoenix from the Southern Belle Dec. 19. He has about thirty men employed in and about the mill and mine. B. N. Brasavich, a first class miner, is underground foreman. John Knudson is superintendent. The amalgamator at the mill is Holly Gove, an experienced mill man, from the Smuggler Union, at Telluride, Colo. Everything about the place is moving smoothly along, and the prospects for a big camp are excellent.

Several mining deals of considerable magnitude are being negotiated in Cochise county which, if consummated, will mean extensive operations on a large scale and tend to aid in advertising our section and bringing to the notice of other capitalists the fact that within our borders some rare mining opportunities exist and but need capital to make them dividend payers.

C. D. Lane, the millionaire mine owner, it is understood is interesting himself in the purchase of some valuable properties in the Doz Cabezas gold district. We are not at liberty to give any further particulars, but suffice it to say that should the transfer be made a mill of large capacity will at once be erected and extensive work begun.

It is also stated that a 20-stamp mill is to be erected at Pearce within a few months, for the Commonwealth Mining company. A mill belonging to Manager Brockman, which has been in operation at White Signal, N. M., will be torn down and shipped to Pearce.

It is also understood that when depth has been attained on the Gold Cliff, which is located near the Commonwealth, the company also intend to put up reduction works. Thus Pearce has a bright and promising future.—*Tombstone Prospector*.

JEROME, ARIZONA, Dec. 26.

(Special Correspondence of the *Phoenix Republican*.)—Although as yet only the higher altitudes are covered with snow, the prospector and his patient companion, Jackus Asinus, are as much in evidence as at any time of the year. The roads are in fair condition, the hillsides are covered with plenty of succulent feed, and the weather has been, up to date, pushing that of Italy for first place. Consequently, the heart of the hunter for the yellow metal is glad. One has only to stand in Jerome's main street for an hour or so and be convinced of the activity among the hills.

One of the most promising of properties in

the vicinity of Jerome is that of Winningham & Hull. Their mine is located near the head of Walnut gulch, about a mile from town. They have completed about 400 feet of tunnel and are now in a body of ore which promises all that the most sanguine miner could wish or hope for. The property is such that Mr. Dennis Sheedy of the Grant Smelting company of Denver, Colo., has by bonding it set the seal of success on another Arizona producer.

Seven claims owned by Joe Tamborino and two partners, also in Walnut gulch, six miles further south, will all prove the right thing. They have a variety of ores, all workable, leaving a handsome profit, which is applied towards the development of the properties.

Many prospects in all the incipient stages of successful producers are to be found in almost any canyon and gulch about Jerome. The proof of these assertions may be found in the phenomenal amount of buildings of all descriptions which have been erected in our own city of Jerome, which is, indeed, just cause that complacent expression of conscious pride seen in the face of every Jeromeite.

Dr. Woods, who bonded the Watson mill and Gold Ring mine in the Cherry Creek district, has also sufficient cause for congratulations. When the doctor at first took the property it gave no inkling of what lay concealed within, because surface indications pointed to a white elephant in place of a producing mine, which it now has turned out to be. The mill is dropping five stamps, with a capacity for ten, and the additional five will soon be doubling the output.

The Cherry Creek country and the immediate boundaries of Jerome offer an exceptional field for the prospector and investor. It may be safely said that we have a real poor man's country—hills and valleys, rich in precious metals, awaiting the consistent, intelligent and ambitious worker. A stake can at all times be made at a variety of employments found at the smelter, in and about the town, a month or two at such work enabling any man to prospect to his heart's content.

DAN.

Kingman papers state that the leases on the Nighthawk silver mine will probably be renewed.

Benj. Gilpatrick, of Kingman, has just opened up a rich silver mine, which he calls the W. J. Bryan.

Rahl, Marinas and Ellibee have opened up on some more \$500 ore in their mines in the Chemehuevis mountains.

The new hoist placed on the Treasurer mine at White Hills, in Mohave county, Arizona, last week will be used in sinking the shaft to a depth of 1000 feet.

The Pay-roll mine at Chloride, Arizona, near Kingman, owned by Judge Murphy, is developing into a very rich property. The ore body is large and the value high.

Thirty men are now employed on the Elkhart mine. The shaft is down 180 feet and the ore body shows a uniform thickness of 12 feet.

The Temple Bar company, operating the hydraulic outfit on the Colorado bars north of Kingman, will have held its annual meeting on the 20th of December.

The 10 stamp mill of the Cedar Valley Mining company in Mohave county, Arizona, is now running day and night. This seems to be a good paying proposition.

Messrs. Finnegan, Jones and St. Charles, of Kingman, have taken a lease and a bond on the Lucky Boy group of mines near there. Recent assays show a value of over 1150 ounces silver and \$70 gold per ton.

P. J. McLean has received encouraging returns on assays from ore taken from the Buena Vista mine near Yuma.

This week the placer property of the Monitor Mining company, known as the Buck Kelly property, at Gila City, was sold to Sanderson & Co., of Moberly, Missouri, the consideration, as near as can be ascertained, being \$25,000. The purchasers will begin work at once on a tolerably extensive scale, which will be increased in ratio proportionate to the success of the enterprise. There is an abundance of water close at hand, and the dirt is said to contain sufficient gold to make the working of it, especially on a large scale, a paying proposition. Mr. Kelly who was the principal owner of the property, is editor and proprietor of the *Moberly (Mo.) Monitor*.

The Mammoth is going to resume work, at least a small force commenced doing assessment work last week and the mine will be cleared out, the working shaft repaired and placed in working order and the mill will be moved from the river to the mine.

CALIFORNIA.

BUTTE COUNTY.

A Big Sale.

The famous Cherokee Flat Hydraulic Gold Mines, with a record so far of producing \$13,000,000, which has been tied up with litigation for ten years past, between the bank of California on one hand and the bondholders on the other, sold under foreclosure sale. The entire property, consisting of 1000 acres of water ditches and thirty miles of canals for "debris," was bid in by a committee of bondholders for \$275,000. Court Receiver J. B. Whitcomb conducted the sale as commissioner and Attorney T. Z. Blakeman of San Francisco represented the bondholders.

The principal holders of the bonds in California are Louis Glass of San Francisco, the general manager of the Bell Telephone companies on this coast, and David Gage of Oakland. The balance of the bonds is held in New York.

The mine is one of the largest and richest hydraulic properties in the state, and until the commencement of the litigation in 1886 was worked continuously for over thirty years, employing from 300 to 400 men. It is estimated that over half of the gold-bearing channel still remains untouched, prospecting tunnels showing it to be as rich as that part already mined. The right to resume hydraulic operations was recently granted by the Debris Commissioners.

INYO COUNTY.

R. B. Taylor, of Corona, who with W. A. Hayt, of this city, is interested in some fine mines, has just received word from one of the mines located in the Panamint district, which has a tendency to make one wish that they were lucky enough to be partners in the bonanza.

At the present time the company has in the neighborhood of 600 tons of ore on the dump, which will average \$60 to the ton. The ore

in the mine is inexhaustible, and, with a good mill to work the ore, the mine would put millions of dollars into the world's circulation.—*Riverside Enterprise*.

Messrs. Currier and Gurius have returned to San Bernardino from an extended trip through the desert mining country. They went as far as the Lone Star country, away out toward Death Valley. They inspected a location made by W. E. Van Slyke, assays on which ran as high as \$2,000 per ton gold. The gentlemen have been figuring on putting a five stamp mill on this property, but owing to its distance from the railroad (nearly 100 miles) they are still undecided as to the best course to pursue. There are many rich mines in the Lone Star section, but it is a five days' haul to the nearest shipping point. Until there is a change in this particular, the development of the district must be slow.—*San Bernardino Weekly Independent*.

Beveridge Mines Sold.

The San Francisco *Chronicle*, of the 9th ult., contains the following:

It is stated that H. S. Gillette and Calvin I. Brown of Chicago have purchased five gold mining locations in the Beveridge district, near Independence, Inyo county. The price paid is said to have been about \$250,000. While the ore runs from \$80 to \$100 a ton, its working has been very expensive, an arastra being used to crush the rock, which has to be packed on mule back at a cost of \$12 a ton to the place where it has undergone final treatment. The new owners will erect a first-class milling plant on the property.

Another paper says the price paid was \$240,000, and that an improved system of reduction will be used.

The sale of these mines to men of capital should mean a great deal to Lone Pine especially, and of course to the whole county. We hope that Beveridge will boom.

Inquiry at Lone Pine reveals nothing definite in regard to the reported sale. The opinion is expressed there that the amount paid is probably \$25,000 instead of \$250,000.

KERN COUNTY.

A New Johannesburg.

Randsburg seems never to have an end in the growth which was started a short time ago, and now it has taken a new direction and that is in the form of establishing town sites. A new town is growing with the rapidity of a mushroom, on a school section one mile east of Fiddler's gulch, or Butte avenue. Carrying out the idea of the South African mines, this place is called Johannesburg.

One of the residents of San Bernardino has found material gain liable to accrue to his portion from the sale of lots, even though his mining interests in the celebrated Rand should prove of a valueless nature. J. S. Purdy is the man who now revels in town lots, if he wants to dispose of mining claims for what they will bring on the surface. The claim which he values the most, and which is in the path of the new town, is called the King of Randsburg. John Bull & Co., of San Jose, representing English money, are also heavy holders of land.

There is some question now in the minds of the townspeople whether or not there is litigation in store, the question having arisen as to the power of the government to use mineral land for school purposes. J. S. Purdy is in Randsburg now, looking after his in-

terest in the new town. John Tomicich, who recently failed in San Bernardino, has already opened a restaurant in Johannesburg. The new town has established a water system, and a tap has been made in the line leading to Randsburg, from which water is taken in abundance.

The Rand Mining Company has made arrangements to erect a 10-stamp mill in the new camp for their own use, and they expect to procure water for this enterprise from the Benson brothers, of San Bernardino, who furnish water through a pipe line with gravity pressure.

J. Grant Lyman, a Pasadena man who, with some eastern capitalists are developing some mines on the Kern river, in the Keysville district has fifteen men employed taking out good ore. They have a large stamp mill in the course of construction and expected to be dropping stamps very shortly. Their property is located near the Mammoth mine owned by the Los Angeles Gold Mining Company of this city.

The Los Angeles Gold Mining Company of this city will have completed their ten-stamp mill on the Mammoth mine, on the Kern river, near Keysville, and will be running on good ore by the first of January. They are also completing an upraise from the tunnel connecting shafts number 2 and number 3, and are taking out \$20.00 ore from the upraise or air shaft.

MONO COUNTY.

The work at the Dunderberg Mine is progressing satisfactorily, and the prospects are very flattering for the owners, who are thus early promised a valuable property in their Dunderberg enterprise.—The tramway, 1,000 feet long, and 6 feet above ground, is completed. A large ore bin has been built at the upper end, and a snow shed, 150 feet long, has been erected between the bin and mouth of the tunnel, so that bad weather will not interfere with running the ore to the bin. We may look for big returns from this mine the coming year, and do not believe we will be disappointed. Superintendent Kermeen is in the best of spirits over its prospects—and he knows what the mine is.—*Bridgeport Chronicle-Union*.

RIVERSIDE COUNTY.

The wages of workmen in the Santa Rosa mine and mill, close to Perris, have been reduced from \$2.50 to \$2.25 a day—an exceedingly low scale for this class of work.

The secretary of the museum of the California State Mining Bureau has just received some quartz specimens, rich in free gold, from the Desert Queen Mine, Virginia Dale district, Riverside county.

E. M. Sheffield of Riverside reports the discovery of a mineral paint mine in the Temescal mountains. The principal color is Venetian red, and samples will be sent to manufacturers for testing.

"The fact that an immense ledge of extremely rich ore has been opened up in a Virginia Dale mine, at a depth of 500 feet, shows that the desert veins go down, whether the miners do or not," said one of our prominent mining men the other day. This remark applies with equal force to the Randsburg, Fremont Peak and other districts. All the intelligent and systematic work so far done shows that the mines are permanent.

SAN BERNARDINO COUNTY.

J. W. Hixon has sent several specimens of rich copper ore from the Bullion Mine, near Manvel, San Bernardino county to the California State Mining Bureau.

A Randsburg correspondent says that 200 tons of freight is now in the railroad company's warerooms at Kramer awaiting transportation to that camp.

D. M. Pyle, one of the owners of the St. Elmo Mine, near the north line of the county, has sent several specimens of free gold rock to the State Mining Bureau.

John Denair and Frank Francis, who are putting down the well on the stage road between Kramer and Randsburg, have reached a depth of 75 feet, and think they will strike water inside of 25 feet more.

The *Needles Eye* reports that Frank Maguire, of Needles, secured a number of large gold nuggets from the Lookout Mine last week. There is a six-inch seam of extremely rich decomposed quartz.

Colton has a resident that has struck it rich in a mining way and has said but little over the luck attendant on his ventures. It is E. Thompson, who has been a familiar figure in that city from time to time and who has followed prospecting for several years. Last month, without saying anything to anybody, he left Colton, went to Arizona, by appointment with some San Francisco brokers, and sold a mine, which he located some time ago, for \$125,000, almost half the amount being paid in cash.

Friday, December 5, he returned to Colton, deposited \$13,000 in the Colton bank and took the train for San Juan Capistrano, where he overlooked the ranch of the same name which was in the possession of Mrs. Fuller, and after passing a day looking into its various improvements and prospects, paid \$25,000 in cash for the property. He then returned to Colton in the same business-like way, hunted up an old friend who had helped him in days when small favors were thankfully received and handed him ten \$100 bills.

The mine which proved to be such a fortune is located a short distance below Needles, on the Colorado river, and has been developed rather than made a prospect for show only. It has never been regarded as a mammoth find but has finally proved to be a mine in earnest and one that at the time of the sale had several years of ore, so it is claimed, in sight. Thompson's business-like methods and non-communicativeness have attracted the attention of everyone in Colton, since it has leaked out that he is no longer a poor prospector.—*Weekly Sun*.

SAN DIEGO COUNTY.

Picacho Notes.

Work is being pushed on all the properties of the Golden Dream Company at Picacho. The Noonday group is showing fabulous richness.

Fifty men are now employed by the Ponce de Leon Mining Syndicate, doing assessment work on properties in the Picacho and White Gold Basins, above Yuma.

Capt. Polhamus' gasoline boat, Aztec, which has been plying between Needles and El Dorado Canyon all fall, has been taken to Yuma to carry mining machinery up the Colorado river.

Col. Allen, of Picacho, has sold to G. W. Ireland, of Bridgeton, N. J., the Pleiades group of six claims, the Capella group of eight claims, and the Gold Crown group of five claims. The consideration is \$75,000. These properties are all located in the old Picacho district above Yuma, in San Diego county.

Senator Dorsey and mining experts, Farish of Denver, and Bell of Scotland, completed their examination of the Picacho mines and came down the middle of last month on their way to London, where the deal will be completed for the 36 mines secured by the Senator. It is a well-known fact that the present examination more than confirms the report made by expert Farish one year ago.

TUOLUMNE COUNTY.

Around Sonora.

The mines in the vicinity of Robinson's Ferry are being extensively worked. On the South Carolina, a tunnel has been run to a depth of 1,200 feet, and cross-cutting is being done. The property is owned exclusively by California capitalists, one of which is W. H. Martin, of Nevills, Ballard & Martin, owners of the famous Rawhide. The property is superintended by Bert Deleray, a gentleman of large experience in mining matters. It promises to develop into a big proposition.

The Maloney group of mines, in the same vicinity are being operated on a large scale. These are also under the efficient management of Mr. Deleray. The shafts are being securely timbered, and two large hoisting works are being erected. This property is owned by Ralston & Grayson and gives every indication of soon becoming a large producer.

Operations will be resumed on the Lady Washington shortly. Superintendent Fisher has been devoting his attention to opening up the Modoc, located near the Buchanan, with very flattering results. It is confidently expected that the Modoc will take front rank with the mines of the east vein, when properly developed.—*Sonora Union-Democrat*.

A Rich Strike.

December 16th, word came from Chinese Camp of a rich strike in one of the old mines of that section. It was the Andrew Johnson, on the land of the Morris Brothers, and it had not been worked since 1867. A few days ago, a well-known mining man, named Thos. N. Russell, made a proposition to the Morris boys to go to work on the old mine and see what could be secured from it. The boys thought that there was little chance, but told the man to go to work if he wanted to. On Monday, December 14, he commenced cleaning out the old shaft and among the first pieces of rock he picked out of the bottom was one worth about \$20. Others of like but not equal value came soon after, and when asked the value of the rock per ton, he placed it too high for a layman to think of safely repeating. The mine will be worked this winter and so will a good many other mines in the vicinity.

The most colossal nugget of pure native copper ever found was a single boulder of that metal which was unearthed in a Minnesota mine in 1857. This giant nugget was 45 feet long, 22 feet broad and 8 feet thick. It weighed a fraction over 420 tons.

COLORADO.

Cripple Creek Notes.

Granite Hill ore runs between nine and ten ounces as a regular thing.

A steam hoist is being erected on the Yellow Bird south of town.

Vanderburg brothers last week shipped six tons of \$150 ore from the Jack Pot.

Returns were received last week from 2195 pounds of ore from the Badger Boy, sold to a local sampler. The gross value of the lot was \$87, the ore running at the rate of \$72.80 per ton.

Two feet of ore has been opened up in the Mammoth Pearl in a 15-foot cross-cut at 70 feet. Some high assays have been obtained but sufficient ore for a shipment has not been taken out yet.

Daily shipments are being made from the Hunt lease on the Hallett and Hamburg on Battle mountain, and the property is fast opening into a first-class shipper. Ore is ranging from \$25 to \$60 per ton.

Babbitt and Keating continue to ship almost daily from their lease on the Prince Albert, and the Hoskins lease on the Beacon is getting out five tons of ore per day, that is said to be worth from \$150 to \$200 per ton.—*Cripple Creek Mail.*

(The Mining Investor.)
Pine Creek.

Eastern parties are pushing the work on the Golden Sceptre lode, lying between Grizzly and Schultz Hill.

The Boomerang on Colorado Hill is showing up an eight-inch streak of smelting ore in sinking the shaft.

Snively & Co. have started to run a tunnel in the Little Jenny Lind group. Work will be pushed all winter.

The new building of the Elk Park concentrator is all finished, and workmen are busy upon the machinery, expecting to have everything in running shape by January 1.

The ten-ton lot of smelting ore from the Ingram No. 2, treated at the State Ore Sampling Works during the past week, netted a little over \$60 to the ton, the grade being about the same as the previous shipments.

Teamsters hauled down a ten-ton lot of ore last week from the Yellow Medicine on Colorado Hill to the Black Hawk Depot for shipment to the Smith concentrator at Golden. If this ore gives good average returns, they intend to commence making regular shipments, as they have a large ore body in sight.
Silverton.

The new stationary cable for the Iowa tramway has at last reached the mill, after breaking down several sleds and wagons. Twelve tons of steel is a heavy load on a steep mountain trail.

Allan & Good have leased the Coming Wonder. Supplies have been sent up and work will be pushed on the mine all winter. The mine is located on Anvil Mountain. Some high grade ore was taken from it two years ago.

The Royal Tiger reduced its working force last week. Pack mules cannot reach the mine without danger to the animals. The mine has a great many tons of high grade ore now awaiting shipment, but it will probably stay where it is until the snow melts in the spring.

The Bandora, on the middle fork of Mineral Creek, which has been shipping steadily up to the time the smelter closed, will continue work all winter with a large force of men. The ore that is taken out will be stored until spring, when the smelter will resume operations.

Idaho Springs.

C. J. George is here from Pittsburg, Pa., looking after the new work in the Monte Cristo mine, it having passed into his hands quite recently.

G. L. Crawford and Edwin A. Perry have been up from Denver with surveyors, and it is reported have a big mining scheme on foot for the Ute and Chicago creeks.

Veckel and Griffith of Denver have been in camp for the past week, completing arrangements for the passing of a good gold proposition into the hands of a Denver pool.

John Thexton has commenced the erection of an amalgamating mill by the Kinkead process on Clear creek where the Virginia canon empties into it. Its daily capacity will be 20 tons.

John P. Jackson and L. E. Parker of Chicago are figuring on the erection of a new milling plant for the treatment of low grade ores. They are visiting various sections of the district, and at the same time are figuring on the purchase of a mine in Dumont.

Georgetown.

The work on the Diamond tunnel level of the Dives-Pelican mine, so far as company work is concerned, has been discontinued for the present; the ground however is being worked by lessees under very favorable conditions.

One of the most promising gold propositions in this upper section of Clear creek county is the Plato mine, the workings of which are situated within the corporate limits of Georgetown, and consist of a shaft 40 feet in depth, in the floor of which there is a vein of 10 feet in thickness, six inches of which is smelting ore. A recent test shows its value to be four ounces gold and 130 ounces silver to the ton. There is a scheme on foot by the parties who expect to assume control of the Centennial mine to purchase and develop this mine along with the Centennial; there is also a probability that these same parties will secure the Burrell-Syndicate properties, which are in close proximity, and from which tests have been made which show a value of from two to twenty-seven ounces to the ton.

LOWER CALIFORNIA.

Mr. George Box, editor of the *Lower Californian*, published at Ensenada, passed week before last in Alamo and Mexican Gulch, enjoying the genial hospitality of Mr. Frank Hartzell, one of the owners of the Viznaga mine.

There were no recent developments in this district aside from the purchase of the Centipede mine by the Viznaga company. This mine is located near the Viznaga, and is one of the most promising prospects in that section. The vein has been laid bare for a distance of 300 feet or more, and a shaft has been sunk about midway to a depth of eighty feet, showing a ledge of some ten feet in width. Ore from this vein assays well, some running as high as \$40 a ton having been taken from the bottom of the shaft. Work has already been resumed on the mine, and several tons of the rock will shortly be milled.

Mr. Joe Peterson is sinking a shaft on the south extension of the Viznaga, and indications are good of striking the vein. Senores Fermin and Navet have recently located a vein near the Centipede which prospects well in places. Sr. Gudberto Cabrero has also located others near by.

At Alamo the Aurora mill was in operation, as it has been for some months past, on St. David ore. Prospecting work was under way on the I. X. L. and Rainbow claims, and sixty tons of ore from the former was being milled.

Engineer Burr recently measured the Never-Give-Up, where J. M. Gonzalez had found some rich rock. Some good ore has also been taken from the Scorpion, a claim in the same section.

It is reported from Los Angeles that the Aurora mine has been sold under a year's bond, and that work will be commenced after the holidays. This is good news and will probably lead to other sales in the Alamo. P. L. Griffin, who in company with W. E. Howard, is developing the Moctezuma mine, will start the Manzanita mill shortly on that ore.

It is reported that some good finds have been made in the Encinitas district, situated west of the Agua Caliente of Melendrez. Sr. Ismael Sanchez, who lately returned from making some measurements there, thinks very well of the district.

MEXICO.

Chihuahua Notes.

There is great activity now around the once famed Santa Eulalia mines. The Kansas City Ore Company, which has acquired the well known Mina Vieja, have quite a force of men at work and will soon be ready to take out ore in large quantities which will be shipped to El Paso.

Jose Maria Duran y Maceyra is getting out lots of ore which he is selling to the Mexican Ore Co.

At the Santo Domingo shaft of the original Santa Eulalia mine, owned by the Chihuahua Mining Company, a magnificent body of ore has been struck at a depth of eleven hundred feet. The ore is probably better than any that has been met with since the company has had the property and is high grade both in lead and silver. We learn that the Chihuahua Mining Company have leased their smelter to the Guggenheim Co., of Aguas Calientes and Monterey and will hereafter dispose of their ores to that company, who will probably soon blow in the smelter on the low grade stuff, the high grade ores will be shipped to Monterey. The body of ore struck in the shaft as above stated seems to be on a different trend of the vein than that of the old shaft, stations are being opened as the shaft descends, and fronts both north and south are giving splendid results.

Mr. McCurdy, the superintendent in charge of the Santa Elena Co.'s interests at Cusi-huiriac, was in Chihuahua December 24th. He gives very encouraging reports of the output of ore that is now being taken out, much of which is of such value as to warrant its shipment in a crude state. The great trouble is the lack of freighters to bring in the ores and concentrates, which are accumulating in great abundance. The whole face of things has changed at Cusi-huiriac and everything promises a prosperous season soon. "La Barranca del Cobre" is shipping out lots of concentrates, which are being handled by the

Lewis Co. By the last mail stage a sack of magnificent gold ore came through from the Barranca, which proves that there is still gold there. The judicious management of the Mendoza brothers is having its effect.—*Chihuahua Enterprise*.

Mr. A. A. Spendlove, the general manager of the Chihuahua Mining Co. of Santa Eulalia, as well as of the Helena Mining Co., of Cusihiuriachic, was in Chihuahua December 26th, and reports that both of the properties under his direction are turning out abundance of rich ore, and gives promises of a real bonanza in both localities. Mr. Spendlove is a living instance of "a man with a head and what he can do with it." He came to Chihuahua a little over two years ago, a lawyer from New York, who had never had a day's practical experience in mining, looked over the ground carefully and cautiously, then laid his plans, selected able coadjutors, and the result is that two non-paying properties have been put on the high road to success, one making money and the other just about to go into bonanza.

Captain Miguel Bornio, general manager of Las Planchas Mining Co., has recently discovered a new ledge of gold and silver bearing ores, about one mile from the location of the works of the company in the state of Sonora. The ledge, which is about five feet wide, can be traced across a depression in the country and up the hills on both sides. The croppings give an assay of forty ounces in silver and two ounces of gold per ton.

The distinguished French engineer, M. Maurice du Chatenet, commissioned by great French capitalists to examine certain Sonora mines which they wish to acquire, is about to conclude a great transaction about the mines of Cibuta, which belong to Senores Pierson and Hofvilleur. And behind this sale there will be others, since in the Sierra del Cibuta there is much wealth to be discovered.

We have news from Batopilas that some of the native silver mines there have gone into "Bonanza" and the probabilities are that the coming conducta, due at Chihuahua on the 1st inst., will be heavily loaded.

NEW MEXICO.

Hillsboro Mines Output.

Output of Hillsboro gold mines for the week ending Thursday, Dec. 24th, 1896, as reported for the *Advocate*:

	Tons.
Wicks.....	50
Butler.....	35
Richmond.....	90
Happy Jack.....	25
Snake Group.....	85
Opportunity.....	20
Sherman.....	15
Prosper.....	30
Eighty-five.....	50
Percha (silver-lead).....	25

Total..... 425

Total output since Jan. 1, 1896, — 23,645.

Black Range.

Benj. Cook is doing assessment work on his claims in the Cuchillos.

John Saucer has sold to the Cliff Mining & Smelting company a tract of land upon which the smelter stands.

A few men have been put at work on the Goodenough mine and the force will be immediately increased to twenty men. We are also informed that a force of twenty men will be put on the Cliff mine on Byers Run at an early day.

D. Braymer, president of the Cliff Mining & Smelting company, and his son George, have purchased the King mines situated on Byers Run, formerly owned by Messrs. Hall and Haynes. We understand the consideration to be \$6,000.

San Andres.

Cooper and Roberts have struck some very fine free milling gold ore in the San Andres mountains close to Dr. Blackington's mines.

Dr. Blackington, of Socorro has some fine copper and gold mines, and is putting up a ten ton smelter.

B. Nymeryer and other parties have a good force of men at work on their properties.

Doc Hughs is down 130 feet on a fine prospect containing copper, lead and a little gold and silver.

There are thirty-five men employed at the mines mentioned.—*Las Cruces Republican*.

(Deming Headlight.)

CHLORIDE FLAT.

Work here is being prosecuted with the accustomed vigor, and when many claims have passed into new hands, as is usual with the beginning of a new year, there will be lively times for a while at least.

PASCHAL.

Martyr, Wynaught and McKinney are working their New Albany and other claims here with satisfactory results.

George Cox is working on a copper property which, with development, may prove a bonanza for its owner.

SILVER CITY.

The Pacific mill has closed down temporarily, but will resume operation in the near future.

Iron ore shipments from this place have been discontinued for the time being, but will be resumed shortly.

COPPER FLAT.

Bustle is the order of the day in this the newest mining camp in Grant county, and ere another Christmas has come, it will be the liveliest section in the southwest. The machinery for the new smelting plant is being delivered on the ground and the works will be pushed to completion as fast as skilled labor can accomplish it. The works will be in successful operation within sixty days it is thought.

CARLISLE.

There is but little news to record from this well known camp. All the leading mines are being worked vigorously, while those of lesser note are keeping well to the front in anticipation of lively times with the advent of 1897.

The properties owned by the syndicate, of which Col. P. H. McDermott is the efficient manager, are looming up grandly and when the gold bricks begin to come, they will con-

tinue without intermission. A large force of miners are employed on the various properties of the company, and there are many men in camp awaiting a chance to begin work shortly after the new year is ushered into existence.

CENTRAL.

This camp is unwontedly quiet for this season of the year, but it will not be long before it resumes its usual activity. A great deal of development work is being done on the various claims in the district and some very rich ore is being extracted.

The pumps are at work continually on the Texas mine and work will be resumed in the near future, when the mine will eclipse all its previous records as a producer of rich gold and silver ores.

PINOS ALTOS.

There is much sameness in the doings of the Tall Pine camp that a reference to it seems almost superfluous. Suffice to say that everything is progressing swimmingly, and that ore is being turned out in the usual quantities.

The Golden Giant continues to produce ore of medium grade in quantity, which is being piled up in the bins.

Work on the Mountain Key is progressing favorably, and the water in the shaft is being pumped down to the 400 level, where quantities of good ore are known to exist. The shaft will be retimbered to the next level as soon as the water is extracted. New openings will be made for stopes as the level is pushed forward and the output of ore when the 500 level is opened up and systematically worked, it is confidently expected, will exceed anything in the history of this justly celebrated though poorly managed property.

GOLD HILL.

Chicago parties who have been investigating the old Southern Belle property appear to be highly satisfied with their prospect. It is more than probable that a sale will be effected.

Doctor G. N. Wood is running his mill on ore from the Fraction and other mines which he owns here, and the results thus far have proven highly satisfactory.

Cline and Keister are stoping ore twenty-five feet from the surface on the Nancy Lee.

The Standard Company will resume work on an extensive scale with the beginning of the new year. The mill will be run on ores from the company's mines.

A Great Turbine Power.

The new power company at Niagara Falls have now in successful operation their new power plant, consisting of four of the Leffel celebrated Niagara Type of Turbines, each of about 2200 horse power. These Turbines drive eight generators of something over 1000 horse power each; two generators being connected directly to the shaft of each wheel, one being placed on each side.

This comprises the most complete and perfect electric water power plants in the world. The same company have four other of the Leffel Niagara Turbines, using in all eight of that style of wheel.

NEVADA.

Spragg and Martin Mill.

Henry Fisher came in to Dayton from Mason Valley Wednesday night, December 23d, to spend the holidays. He has been employed in the Spragg and Martin mill in the valley, and reports that the mill is now closed down until warmer weather comes. The first run was on twelve tons of ore from the Spragg and Martin mine. It was taken from the dump promiscuously, without any sorting, and it is not known exactly what the returns will be. The bullion was shipped to the Carson mint this week, and, apparently is a nice little bar. The owners of the mill are confident that it has done good work, and that the returns will be satisfactory. Mr. Fisher says that before the mill starts again new plates will probably be put in, as the ones in use are somewhat worn.—*Dayton Times*.

UTAH.

(Extracts from Inter-Mountain Mining Review.)

TINTIC.

The last car of machinery for the new Mammoth hoist is now on the ground, and the shaft house and gallows frame are nearly completed.

Joseph Fryer, formerly of Bingham, but who is now developing the Magnet claim above the Buckeye, reports the discovery in the vein of native silver.

Secretary W. J. Beattie of the Bullion-Beck has gone over his dividend totals recently and has revised them to conform to the exact amount paid. The total to date, including the \$45,000 paid on the 21st ult, is \$2,197,000.

The South Swansea recently shipped 187 tons in one shipment, 19 tons of which was first class, running even \$90 per ton in silver and lead. The entire shipment brought \$7,500, equalling the amount distributed last week as the first dividend.

The recently incorporated Rabbit's Foot company, which owns the evening Star and January lodes in Silver City, has the lumber on the ground for a new shaft-house and other mine buildings. The shaft on the Evening Star is to be pushed to greater depth.

PARK CITY.

Reliable information received this week is to the effect that the Ontario is today a bigger silver mine than ever before in its history. That it goes deeper than the present deepest workings, and gets better is amply proven by the developments being made by Foreman Kervine in the three-compartment winze being sunk below the 1,500 level. At the 1,600 level four feet of rich black ore, as good as any ever uncovered in the mine, has been exposed, and the indications are that this ore body will continue to improve as depth is obtained. Black ore in the Ontario means extra rich rock, and if it exists in No. 2, is almost certain to be found in other parts of the mine, and proves that the future of the property is yet only in its infancy. It means millions added to the millions that the mine has already paid to its stockholders.

BINGHAM.

Jones & Eilers, the Alamo leaders, will shortly make a considerable shipment of ore that ought to net them a snug sum. The

Alamo since our last report of it, has materially improved, and is a property of great promise.

Work has temporarily suspended in the 200-level of the Winnamuck, owing to bad air. An upraise for ventilation, started recently, had been lifted about thirty-five feet when the men were forced to quit. Air pipes were put in since which the condition has not only not improved, but candles will not burn two feet away from the pipe. Connection will shortly be made with the raise by sinking from above. The ore bodies lately opened in the 300-level of the Winnamuck are steadily holding their own, and are of great importance.

CAMP FLOYD DISTRICT.

Work on the Omaha will be resumed at an early date.

The Snowstorm company has about twenty men at work developing the property. It promises to be one of the mines of the West Dip.

A whim has been put on the main shaft at the La Cigale, and though ore is now blocked out to supply a mill whenever the spring comes.

The Fairmounts, in which Attorney Frank Pierce of Salt Lake is interested, has the shaft down forty feet, and is in the vein which shows satisfactory values.

The cyanides of the Mercur Company are now shipped to the Deutsche Gold and Silver Anstalt at Frankfort, Germany, for reduction, the reason being that it is more profitable to the company.

A strike has been made on the Golden Reward group, but it looks as if it had been washed considerable, and does not carry very heavy values. They are growing better as the work progresses.

The Daisy is showing up something like a mine. A shaft house, bunk house, etc., have just been completed, and a whim will be put in place after the holidays. The ore body is still increasing in size as the work progresses and keeps up its average value of ore.

GENERAL NEWS.

The following statistics in regard to the exports and imports of the precious metals will be found interesting: The gold exports for October amounted to \$343,168, as compared with \$1,873,897 for October, 1895. The imports amounted to \$27,061,938, as against \$1,979,040 for October, 1895. The exports of silver during October amounted to \$4,974,339. For October, 1895, it was \$4,599,447. The imports of silver during last October aggregated \$888,442; for October, 1895, it was \$1,391,831.

Michigan Copper Mines.

Some idea of the richness of some of the copper mines in Michigan may be gathered from the fact that they have thus far, according to published reports, paid their owners dividends amounting to \$70,000,000. The *Chicago Record*, referring to this fact, says:

"The dividend of \$25 a share just declared by the Calumet and Hecla Copper Mining Company for the current year is especially noteworthy because it is the greatest dividend ever paid by this remarkable property. There are 100,000 shares, so that the total sum dis-

tributed among shareholders was \$2,500,000. When it is considered that the original value of all these shares was just the last amount mentioned, the tremendous earning powers of the property will be appreciated. The selling value of the stock is about thirteen times its par value.

"The year 1896 has been the most prosperous ever known for copper mining, owing to the great foreign demand for American copper. The home demand was restricted by the depressed condition of business, but this falling off has been more than made up by the demand from abroad. During the ten months ending November 1st, the European purchases of copper amounted to 225,000,000 pounds, nearly double that of the same period last year. This was 60 per cent. of the entire output of this country, and was drawn principally from the Lake Superior copper mines."

Mono's Mineral Deposits.

Harold W. Fairbanks contributes to the *San Francisco Mining and Scientific Press* the following regarding Mono county mines in an article on the Mineral Deposits of Eastern California:

In the mountains west and southwest of Benton there are many gold-bearing quartz veins. As a rule, the gold is associated with pyrites and other minerals, which makes its extraction difficult. In some mines there is a notable quantity of galena and other silver ores. The country rock is granite.

A large number of gold-bearing quartz veins are found scattered along the scarp of the Sierra Nevadas near Mono lake. These are mostly in metamorphosed sedimentary rocks. The most important mine is the Golita, where there is a body of ore 50 to 70 feet wide, lying between limestone and a porphyrylike rock. Gold and silver both occur here in nearly equal proportions.

A very interesting group of mines is that on Mount Scowdan, south of Mill Creek canyon and near the summit of the Sierra Nevadas. This mountain rises to a height of 11,500 feet, being composed of granite except on the northwest where there are bodies of quartz porphyry and silicious metamorphic rocks. The mountain is seamed by quartz veins on three sides. Some stand vertically on its very summit, while others outcrop on the steep canyon walls, dipping in at an angle of 30 degrees or less. While the greater number and more regular veins are in granite, there are some in the porphyry and metamorphic rocks. The ore from all the veins in the granite is quite similar. The gold is found free in the superficial workings together with a little galena. In the deepest workings of the May Lundy mine the free gold disappears and its place is taken by iron pyrites. Next to Bodie, this is the most important gold district east of the Sierra Nevadas.

Bodie has been the great center of gold mining in eastern California, more than \$20,000,000 having been produced there. The gold-bearing veins are unique in many respects. Their period of formation followed the volcanic activities of Tertiary time, and in age as well as general character they differ markedly from the other important gold deposits of California. The inclosing rock is hornblended andesite, which covers an extensive area north of Mono lake and seems to belong to the same period of eruptions as the andesites along the summit of central and northern Sierras. The most important thing about the Bodie ore is, however, the fact that the vein ceased to be profitable below 700 feet. The veins are divided into two classes

—an older easterly dipping one and a younger, nearly vertical or inclined at a high angle to the west, one series faulting the other. The veins of the Syndicate mine on the north are beautifully banded, with the appearance of having been formed in open fissures by successive layers from the walls inward. They became unproductive at a depth of 250 feet. The Standard mine next south shows a still larger number of veins, varying from exceedingly thin seams, which are very rich, to an extreme width of 90 feet. The latter vein had an average width of 20 feet, according to Whiting, and constitutes the most important ore body. In the Standard mine the vein became smaller and almost barren below the 500-foot level. In the Bodie and Bulwer mines on the south the ore bodies extended to a somewhat greater depth.

Levels Should be Run on a Drain Grade.

In going underground in many mines you will find that little attention has been paid to the grade of the levels and crosscuts. If the mine be a wet one, the car tracks are often covered with mud or water on account of the levels being put in flat instead of on a uniform drain grade running toward the shaft, of say one inch in 20 feet, which the miner can correctly do by the use of a grade stick and spirit level when laying the car track also. The advantages of tracks on drain grades are:

1. Water continually running, even slowly in a drain way on either side or under the car track, makes a circulation of air, and prevents accumulated decomposition from timber and rubbish which collects in levels.
2. They save the rails and sleepers from unnecessary wear and tear, thus saving the expense of repair in respiking rails which will, owing to the constant running of the cars, spring out the spikes from the wet sleepers quicker than from the dry ones.
3. There is less wear on car wheels and axles on a dry track than a wet one.
4. The carman can run a heavier load in his car down the grade, for he has no pushing to do on either a wet or dry track. With the slight grade of one inch in 20 feet, after emptying his car, the exertion of pushing up the grade is no more than pushing over a flat track covered with mud and water, and the expense of keeping the drains clean is very slight.
5. Then there is the comfort and health of the men. With wet feet and damp to the knees and no general comfort they cannot get through the amount of work that could be done if their surroundings were comfortable, and free from the liability of bodily ailments, such as colds, cramps and rheumatism.

The following is a summary of the report of the Anaconda Copper Mining company of Montana:

Sales of metals.....	\$11,929,904
Increase in stocks of metals.....	4,139,726
Total.....	\$16,069,630
Mining and reduction, less subsidiary profits.....	9,858,708
Refining charges at seaboard.....	1,248,214
Freights, railway and ocean.....	586,922
General expenses.....	109,069
Interest paid, less royalties, etc., received.....	8,202
Total expenses.....	\$11,811,115
Profit.....	\$4,258,515

Africa's Small Yield

(Mining and Scientific Press.)

From present indications, the output of gold, in the Rand, South Africa, for 1896, will not exceed, if, indeed, it equals, that of 1895. The output for October has been announced as 199,889 ounces. The output for September was 202,561, and for August 213,417. The increase from the beginning of the year up to the end of August had been so steady and large that it was generally anticipated that the year's total would exceed that of 1895, which was 2,277,640 ounces. To make up that amount this year, the output for November and December must amount to 405,685 ounces.

There has been an increase in the milling capacity of the Rand, but the average of gold obtained per ton is less. To a large extent this is due, however, to the working of lower grade ore than would formerly pay. Upon this subject John Hays Hammond, at the last meeting of the shareholders of the Consolidated Gold Fields, Limited, in London, said:

"I have been asked to explain the decrease in the value of the ore per ton within the last few years, compared with the earlier history of the Rand. The early history of the district, owing to the very high costs of operations then prevalent, and owing also to the small batteries then used, it was not possible to make any satisfactory profit from working other than the very highest grade ores—in other words, the mines were picked. We have the same rich ore bodies today as are shown in our assay plans at the lowest levels of our property. But the economical conditions have greatly improved since those days, and it is our object to work as low grade ore as possible, consistently with maintaining the required profits. You will appreciate the importance of this, because you will see that it not only enables us to work ore at a smaller cost, but adds materially to the life of the mine as well. I have pointed out to you in my last annual report, and frequently referred to the subject when I have had an opportunity of speaking upon the history and future of the Rand, that the ore occurs in broad patches, not in defined shoots, as in other gold-bearing formations, and that, therefore, we must appreciate the importance of having the development work well carried out in advance of the mill requirements; otherwise, there is inevitable disappointment. The battery eats up, as miners call it, a tremendous quantity of ore, and it takes time to run your drives and open up ore reserves. We attribute the disappointments of many mining propositions on the Rand to the failure to adequately provide ore reserves as against the contingency of an occurrence of poor zones."

There are now 560 miles of electric railways in Europe, an increase of 125 miles in one year, says the *London Engineering*. The number of electric cars has increased from 1236 to 1747 in the same time. Germany has 250 miles of electric railway and 857 motor cars. Great Britain has 65 with 168 cars, Austria-Hungary has 45 miles with 257 cars. Next comes Switzerland, Italy, Spain and Belgium in the order given, while Russia has but one electric line, with six miles of track and 32 motor cars. Portugal ends the list with 1 $\frac{3}{8}$ miles. Of the 111 European lines 91 are overhead trolleys, of which there are 35 in Germany, 12 in Switzerland, 10 in France, 7 each in England and Italy, and 6 in Austria-Hungary, etc. Of electric railways of underground current there were but

three at the beginning of this year, one each in England, Germany and Hungary. Nine lines are provided with an insulated central track, through which the current is conducted, eight of these lines being in Great Britain and one in France. The remaining eight lines are provided with accumulators. Of these four are in France, two in Austria and one each in England and the Netherlands.

The introduction into Buffalo of electric power from Niagara Falls directs attention to the economic as well as the scientific features of the enterprise. The *Buffalo Express* has been looking into this. It finds a large saving thus far for producers, and there is hope of much greater economy with improvements in the conservation of energy during transmission. At the outset the price charged per horsepower used for 24 hours in the day is \$36 a year. This is much less, the *Express* claims, than the cost of steam generation in places where it has been reduced to a minimum, and where the power is used only 10 hours a day. With coal at \$2 a ton, it is estimated, taking into consideration everything, including fixed charges, that the steam generation of 50 horsepower 10 hours daily costs \$2,750 a year, or \$55 per horsepower.

PERSONAL—NEWS ITEMS

L. E. Aubury, the San Diego assayer, paid the *JOURNAL* a pleasant visit last week. Mr. Aubury expects to locate in Los Angeles and will open a branch assay office here.

John Slankard, the mining man of Phoenix, Ariz., has left Yuma on a prospecting trip through the desert.

L. E. Porter, the mining man who has been on an extended trip to the Slate Range in the northwestern part of San Bernardino county, was a caller at the *JOURNAL* office the 26th ult. Mr. Porter reports everything in a prosperous condition in that section of the country. Our old friend, E. S. Richarda, is chief cook and bottle washer at the camp.

Hon. O. D. M. Gaddis left Kingman, Ariz., for the Needles, December 26th, on business.

James A. Pollock, the bond and stock broker of Salt Lake City, Utah, gave the *JOURNAL* a very pleasant call December 24th. Mr. Pollock is very enthusiastic over the Salt Lake country.

Joseph Gilbert, foreman of the Red Rover mine at Acton, Calif., has gone on a trip to San Francisco on business.

G. W. Beecher has gone to Chloride, Ariz., from Kingman, to look after his mining interests there.

W. H. Dodson, Jr., of the F. F. Collins Manufacturing Company, of San Antonio, Texas, was in Los Angeles the last of last month and was a visitor at the *JOURNAL* office.

Dr. E. W. Peters, general manager of the Planet-Saturn Mining company at Fool's gulch, near Prescott, is in that city for a few days.

Adin Alexander, a Los Angeles mining man, has gone on a trip to Randsburg, Kern county, Cal., where he expects to become interested in mining.

H. C. Truesdale has returned to Phoenix, Ariz., from the Hassayampa river, adjacent to which he is interested in mining property.

Colonel Unke Tenover was in Chihuahua, Mexico, December 19th, from Amsterdam, and expects to remain some time on business and pleasure combined. The Colonel is a large mine owner in California, and has also valuable mining and ranch property in Mexico, which he hopes to place on the market before returning to his home.

Judson Bent, of San Diego, Calif., who, in connection with Adin Alexander, is working some placer mines in Southern Oregon, was a caller at the *JOURNAL* office.

M. R. Ritchie, the big mining machinery manufacturer of Los Angeles, was at Yuma, Ariz., last week to straighten out the trouble with the transportation company concerning the ten stamp mill for the Golden Dream Mining company.

E. Billing, the well-known Colorado smelting man, was in Prescott, Ariz., December 24th, on mining business.

W. G. Gibson, of Pittsburgh, was in Chihuahua, Mexico, the middle of last month. Mr. Gibson is one of the owners of El Socorro mines, of which James G. Sample is superintendent.

D. O. McKee, the mining man of Hemet, Riverside county, Calif., went down to the Southern part of the above county last week to investigate some mining properties.

J. G. Barton, who for years held the responsible position as assayer of the United Verde copper mine, at Jerome, Ariz., is expecting to leave shortly for New Mexico on mining business.

Messrs William M. Fee and Tom Ewing have just returned to Chihuahua, Mexico, from a trip to the Gavilana Mining District, where they went to examine some mining propositions.

M. S. Vetter, of Hemet, Riverside county, Calif., who owns some valuable mining properties in that county, has gone to the northern part of San Diego county to examine some other propositions that have been offered him for sale.

James Shields, a mining man from Montana, who has been in Arizona some time, went down to Phoenix from Wickenburg December 22d. He had been in that section looking over the mineral field.

Jose Maria Peinado, a prominent mining man, is in Chihuahua, Mexico, from Cuahuirachic attending to business.

E. H. Cook, superintendent of the United Globe company at Globe, Ariz., was in Tucson December 21.

Dr. Powers and his mother, of San Diego, Cal., must lead a very lonesome life on the Cedros Island, off the coast of Lower California. On her recent voyage the steamer Carlos Pacheco touched at the island with mail and supplies. This was the first word received from the outside world for over three months.

C. H. Sherburne, one of the members of the Hemet Mining and Development company of Hemet, Riverside county, Cal., went down to the southern part of the county last week to investigate some mining propositions that have been offered to that company.

M. J. Lorraine, the United States Dept. Mineral Surveyor for Nevada, was a caller at the JOURNAL office the 28th ult.

Charles McCarroll returned, December 18th, to Phoenix, Ariz., after an absence of more than a year, having during that time been operating a mine for the Senator Mining company, twenty miles up the river from Yuma.

Howard Douglass brought in to Escondido, Lower California, the early part of the week, a piece of ore from the Real district. It was nearly as large as a man's head and so filled with gold that it might be called a nugget.

L. H. Emerson, the mining man of Pine Lake, San Bernardino county, Calif., was a caller at the JOURNAL office December 20th.

C. B. Conway, ore buyer for the Silver City Reduction Co.'s smelter at Silver City, N. M., was in Tucson, Ariz., December 18th, in the interest of his firm.

Wm. Lacy, Jr., accompanied by H. Meade, arrived in Escondido, Lower California, from Los Angeles, last week, and were passengers to San Quintin, from whence they will go overland to the mines on the gulf side. Mr. Lacy stated that their schooner, the Penelope was on its way with his brother, R. H. Lacy, a Huntington mill and other supplies.

P. L. Weber, who has some mining interests on the desert, has returned to his home in Hemet, Riverside county, Cal. He has arranged things out at the mines so that his presence is not necessary to the development of his property.

B. G. Maclay, president and manager of the Mounton mine at Neihart, Montana, has gone to St. Louis to arrange with the directors for the resumption of work.

F. C. Howard, of Kansas City, Mo., was a caller at the JOURNAL office December 21st.

Our old-time friend, Arthur Hendy, formerly of Denver, Colo., is still at Jerome, Arizona, and as we understand is doing very well. Good luck to him.

The many friends of F. J. Cooper, the secretary of the Los Angeles Mining and Stock Exchange, will be glad to know that he has just returned to this city after several weeks' absence.

C. Stenhenrauch, of the Eagle Mountains, Riverside county, California, has just returned from his mines where he has been doing some development work.

Mr. Davis, of the Viznaga mine at Alamo, Lower California, returned to Los Angeles, Calif., the last of the year on business.

H. R. O'Bryan, of this city, has just returned from Randaburg, Kern county, Calif. He said the Butte mine had just made a shipment of very valuable ore.

Mr. W. S. Shee, of Los Angeles, who is interested in mining at the Alamo, Lower California, was in Escondido week before last.

Mr. F. B. Brooks, who has been visiting the Jacalitos mining district, Lower California, left for his home in San Francisco the middle of last month.

OBITUARY.

C. C. Angel, the discoverer of the first mine in Angel's Camp, Calaveras county, where the famous Utica mine is located, died a pauper in San Francisco recently, and was buried at public expense.



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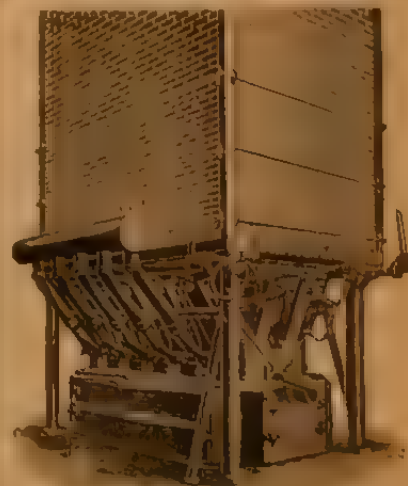
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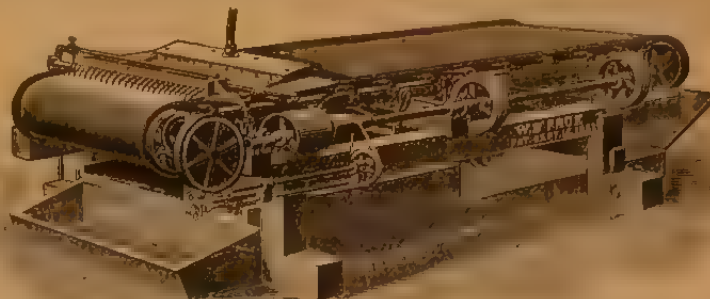
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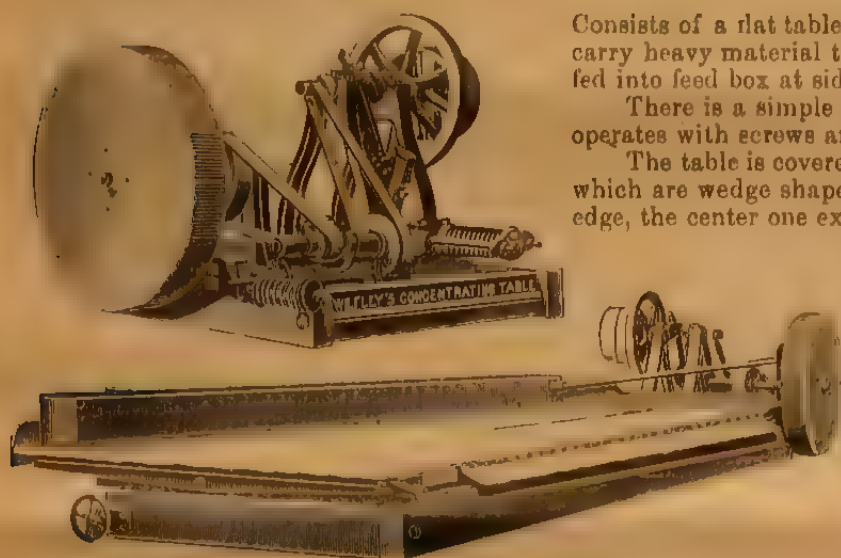
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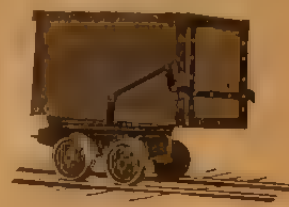
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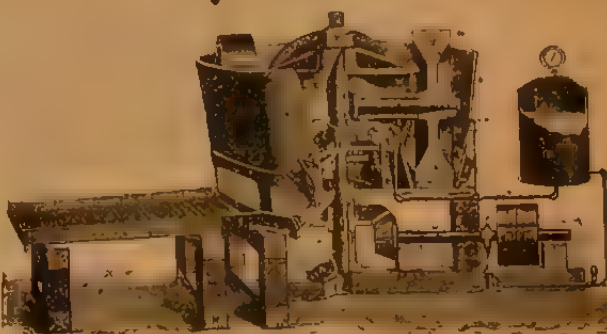
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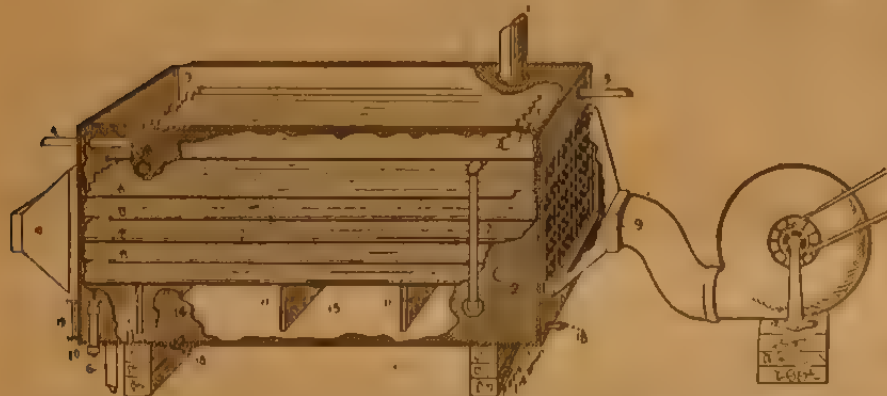
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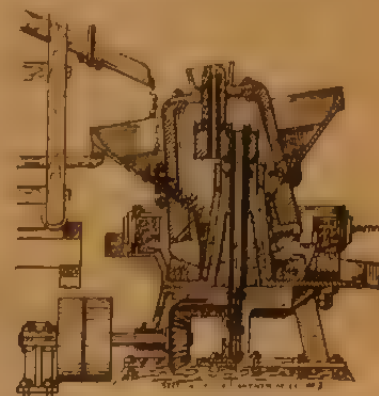
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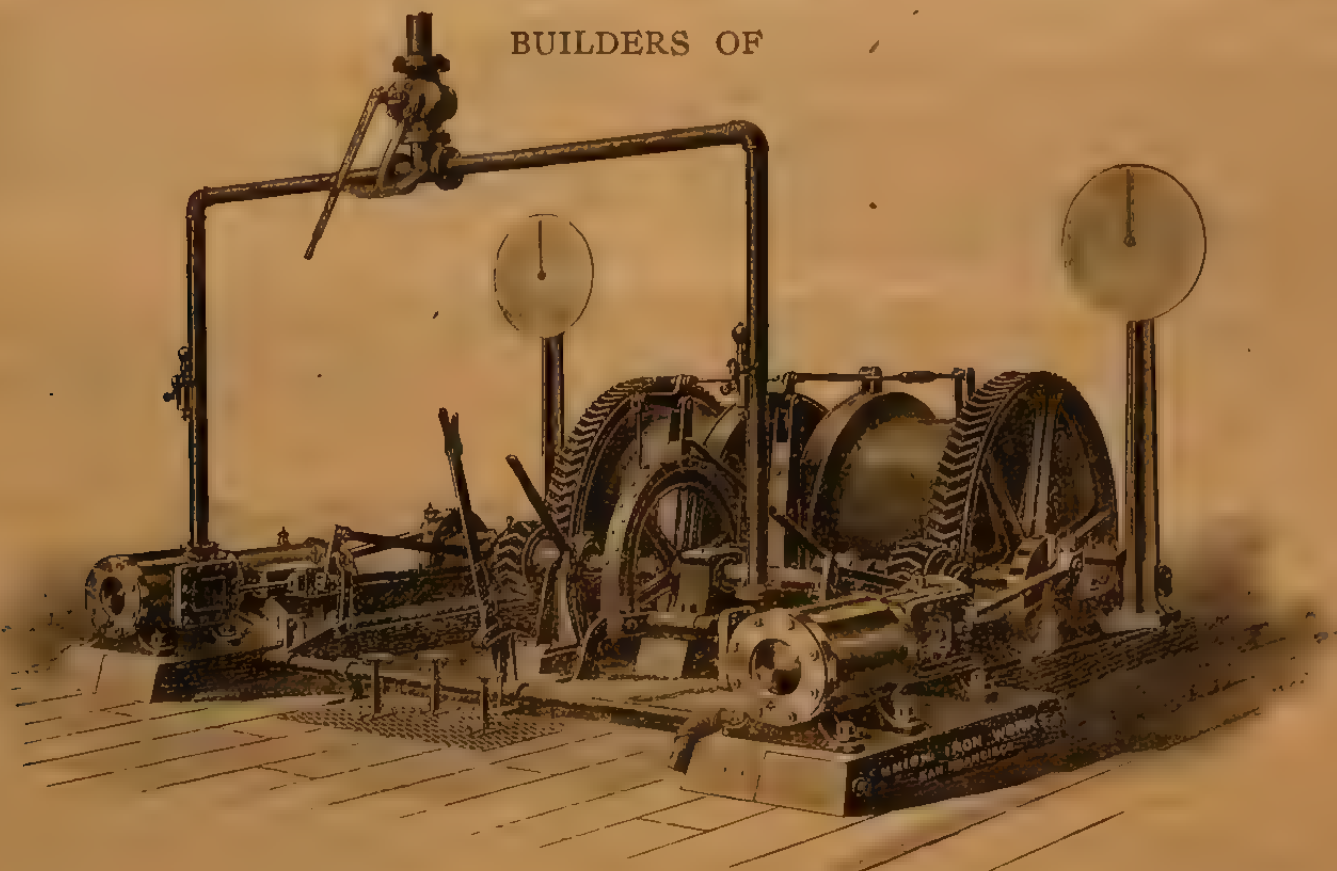


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" 17	69 1/2	11 00	2 75
" 18	69 1/2	11 10	2 75
" 19	69 1/2	11 20	2 75
" 21	69 1/2	11 25	2 75
" 22	69 1/2	11 30	2 80
" 23	69 1/2	11 30	2 90
" 24	69 1/2	11 30	2 90
" 25	69 1/2	11 35	3 00
" 26	69 1/2	11 40	3 00
" 28	69 1/2	11 45	3 05
" 29	69 1/2	11 45	3 05
" 30	69 1/2	11 45	3 05
" 31	69 1/2	11 45	3 02

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Boston & Mont's	75 00	Quebec	82 00
Bute & Boston	1 50	Quincy	108 00
Cal & Hales	200 00	Tamara	75 00
Centennial	2 00	W	5 50

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Aetna	01	Inley	00 1/2
Alamo	00 1/2	Ironclad	00 1/2
Anacosta	1 10	Isabelle	42 1/2
Argentine	10 1/2	Isabella Stamp	32
Bangkok	02 1/2	Jefferson	06
Bankers	1 1/2	Jefferson	11 1/2
Ben Hur	01	Kearns	00 1/2
Bob Lee	02	Monte	3
C & N	01 1/2	Monte	5 1/2
C & M	04	Monte	5 1/2
Crescent	08	Monte	05 1/2
Crescent	01	Monte	05 1/2
C & Consolidated	78 1/2	Orion	03 1/2
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Edison	07 1/2	Pharmacist	8 1/2
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Franklin	01 1/2	Specimen	09 1/2
Garfield	08 1/2	Specimen	08 1/2
Golden Eagle	03	Specimen	00 1/2
Glen Elder	30	Specimen	00 1/2
Gold & Silver	18	Specimen	03 1/2
Gold Standard	05	Specimen	29
Humboldt	05	Specimen	03 1/2
Ingram	10	Specimen	08 1/2

DENVER STOCK REPORT

Aetna	01	Free	50
Alamo	08 1/2	Free	00 1/2
Anacosta	1 24	Free	09 1/2
Argentine	00 1/2	Free	80
" Consolidated	10	Free	00 1/2
Argentine	48 1/2	Free	05 1/2
Bangkok	02 1/2	Free	09 1/2
Bankers	14 1/2	Free	12 1/2
Ben Hur	01	Free	06 1/2
Bob Lee	02	Free	1 1/2
Boston & C	01 1/2	Free	50
Chimbarazo	01 1/2	Free	08 1/2
C & N	13	Free	09 1/2
Colo. C. & M.	04 1/2	Free	10 1/2
C & Con	18 1/2	Free	10 1/2

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Alice	25	Granite	1 85
Bald Butte	2 55	Hope	1 50
Benton Group	10	Iron Mountain	42
B. Metallic	8 00	Ontario	1 00
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Homestake	30 50	Quick Silver	3 00
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Plymouth	20	Deadwood	45

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Bodie Con	65	Yuba	95
Chollar	2 25	Savage	75
Con. Cal. & Va	1 80	Sierra Nevada	53
Crown Point	45	Union Con	45
Hale & Norcross	1 25	Utah	11
Mexican	55	Yellow Jacket	45
Gould & Curry	35	Bulwer	25

ST. LOUIS.

American Nettle	25	Elizabeth	20
Granite Mt.	1 50	Leo	2
Adams	60	Hope	1 40
Bimetallic	3 30	Small Hopes	80

SALT LAKE CITY

Ajax	80	Horn Silver	2 05
Alliance	35	Little Pittsburgh	01 1/2
Am Nat G's	00 1/2	Lucky Hill	22
Anchor	1 25	Mammoth	2 00
Bogan	15	Mercur	6 15
Bull. Beck	6 00	Ontario	10 00
Cent Eureka	75 00	Rover	27 1/2
Dalton	02 1/2	Silver King	17 25
Daly	7 50	Bloux Con	95
Daly West	8 50	Swansea	2 40
Four Aces	20	St. Swansea	1 00
Galeena	1 50	Tetro	08
Geyser	1 00	Utah	1 45

MEXICO

Name of Company	State	Price
Angustias	Guanajuato	\$ 400
Asturiana y Anexas	Zacatecas	140
Cerro Colorado	Chihuahua	10
Concepcion y Anexas	S. Luis Potosi	180
El Oro	Guanajuato	80
do pre	"	30
Los de Borda	Michoacan	30
do Free stock	"	30
Luz de Maravillas	Hidalgo	110
Real del Monte	"	850
Rosario y Anexas	Durango	70
do prof	"	30
San Rafael del Oro	Guanajuato	80
Sta. Gertr y Anexas	Hidalgo	187
do Free Stock	"	301
Sto. Maria de la Paz	S. Luis Potosi	508
Tlaulingo	Puebla	08
Zonclahuacan (gold)	Vera Cruz	05
Zona Min de Pozos	Guanajuato	01

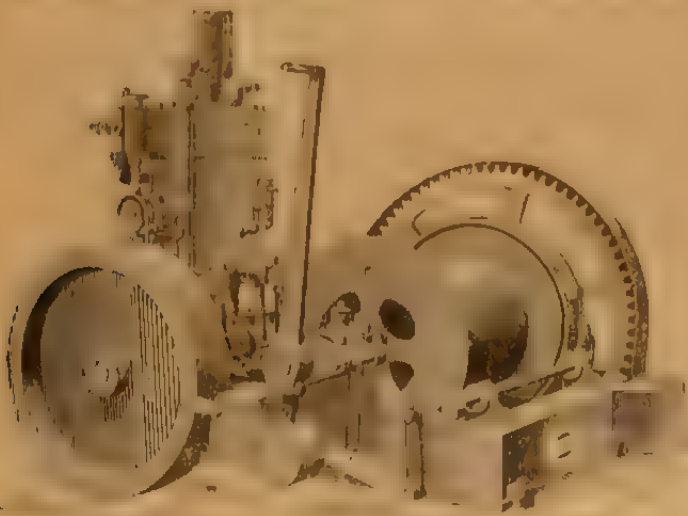
Note—The above Mexican stocks are figured
on the basis of Mexican silver

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20 H.P., 30 H.P., 40 H.P.

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- 2d. Cheaper than the Wooden Frame Mill when ready to run.
- 3d. Saves a great amount of delay in erection and it can be set up in as short a time as a self contained engine.
- 4th. Saves much space.

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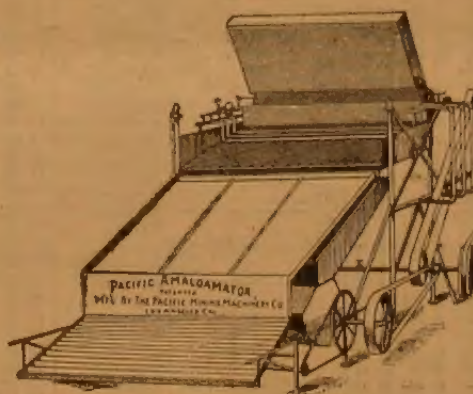
This machine is guaranteed to do the work represented and will save coarse or fine gold equally well. The weight of the standard size for mill is 600 lbs. and for placer use 1000 lbs. The machine can be shipped in section, no piece weighing over 100 lbs., this makes it by far the cheapest for use in mountainous districts where it is necessary to use pack animals for transportation. The standard size machine has seventy square feet of amalgamating surface constructed in such a manner as to give the greatest contact without scouring the plates.

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FROM	TO	Car Loads, in dollars and cents per ton of 2,000 lbs.			
		Ore Concentrates		Lead Bullion, valuation not to exceed \$100 per ton.	
		Valuation not to exceed \$50 per ton.	Valuation not to exceed \$100 per ton.	Valuation not to exceed \$500 per ton.	Base Metal, Copper Matte, Bar and Black Copper, valuation not to exceed \$300 per ton.
Gusman, Mex.	El Paso	10.00	11.50	13.50	
	Pueblo	13.50	15.00	17.00	
	Denver	15.00	16.50	18.50	
	Kansas City	15.50	17.00	19.00	
Ortiz, "	El Paso	9.50	11.00	13.00	
	Pueblo	12.50	14.00	16.00	
	Denver	14.00	15.50	17.50	
	Kansas City	14.50	16.00	18.00	
Torres, "	El Paso	9.00	10.50	12.50	
	Pueblo	11.50	13.00	15.00	
	Denver	13.00	14.50	16.50	
	Kansas City	13.50	15.00	17.00	
Hermosillo, "	El Paso	8.50	10.00	12.00	
	Pueblo	10.00	11.50	13.50	
	Denver	11.50	13.00	15.00	
	Kansas City	12.00	13.50	15.50	
Pesqueira, "	El Paso	8.00	9.50	11.50	
	Pueblo	10.00	11.50	13.50	
	Denver	11.50	13.00	15.00	
	Kansas City	12.00	13.50	15.00	
Querobabi, Santa Ana, "	El Paso	7.00	8.50	10.50	
	Pueblo	10.00	11.50	13.50	
	Denver	11.50	13.00	15.00	
	Kansas City	11.50	13.00	15.00	
Magdalena, "	El Paso	8.50	10.00	12.00	
	Pueblo	9.50	11.00	13.00	
	Denver	11.00	12.50	14.50	
	Kansas City	11.50	13.00	15.00	
Imuris, "	El Paso	8.00	9.50	11.50	
	Pueblo	9.50	11.00	13.00	
	Denver	11.00	12.50	14.50	
	Kansas City	11.50	13.00	15.00	
Nogales, A. T.	El Paso	5.50	6.50	8.50	
	Pueblo	9.00	10.50	12.50	15.20
	Denver	10.50	12.00	14.00	17.20
	Kansas City	11.00	12.50	14.50	18.40
Calabazas, "	El Paso	5.50	6.50	8.50	
	Pueblo	8.50	10.00	12.00	15.20
	Denver	10.00	11.50	13.50	17.20
	Kansas City	10.50	12.00	14.00	18.20
Sanford, "	El Paso	5.50	6.50	8.50	
	Pueblo	8.00	9.50	11.50	15.00
	Denver	9.50	11.00	13.00	17.00
	Kansas City	10.00	11.50	13.50	18.15
Crittenden, "	El Paso	4.70	5.70	7.70	
	Pueblo	8.00	9.50	11.50	14.80
	Denver	9.50	11.00	13.00	16.80
	Kansas City	10.00	11.50	13.50	18.00
Fairbank, "	El Paso	4.40	5.40	7.40	
	Pueblo	8.00	9.50	11.50	14.00
	Denver	9.50	11.00	13.00	16.00
	Kansas City	10.00	11.50	13.50	17.20
Tucson, "	El Paso	4.35	5.35	7.35	
	Pueblo	8.00	9.50	11.50	14.00
	Denver	10.00	11.50	13.50	16.00
	Kansas City	11.00	12.50	14.50	18.00
Benson, "	El Paso	8.00	10.00	12.00	13.80
	Pueblo	8.50	10.50	12.50	14.80
	Denver	10.00	11.50	13.50	16.80
	Kansas City	10.50	12.00	14.00	17.20
Steins Pass, N. M.	El Paso	8.00	9.50	11.50	12.20
	Pueblo	9.50	11.00	13.00	14.20
	Denver	10.00	11.50	13.50	15.20
	Kansas City	10.50	12.00	14.00	16.20
Lordsburg, "	El Paso	7.50	9.00	11.00	12.80
	Pueblo	8.00	9.50	11.50	13.80
	Denver	9.50	11.00	13.00	15.80
	Kansas City	9.50	11.00	13.00	16.80
Silver City, "	El Paso	2.50	3.20	4.70	8.00
	Pueblo	8.50	10.00	12.00	11.20
	Denver	8.00	9.50	11.50	12.20
	Kansas City	8.50	10.00	12.00	13.20
Hudson, "	El Paso	2.40	3.00	4.50	6.00
	Pueblo	8.50	10.00	12.00	11.20
	Denver	8.00	9.50	11.50	12.20
	Kansas City	8.50	10.00	12.00	13.20
Deming, "	El Paso	2.20	2.80	4.30	5.20
	Pueblo	6.00	7.50	9.50	10.80
	Denver	7.50	9.00	11.00	12.80
	Kansas City	8.00	9.50	11.50	13.80
Florida and Lake Valley, "	El Paso	2.20	2.80	4.30	5.00
	Pueblo	6.00	7.50	9.50	10.80
	Denver	7.50	9.00	11.00	12.80
	Kansas City	8.00	9.50	11.50	13.80
Nutt, "	El Paso	2.20	2.40	3.40	4.80
	Pueblo	8.00	7.00	8.00	10.80
	Denver	7.50	8.00	10.00	11.80
	Kansas City	8.00	8.00	11.00	12.20
El Paso, "	El Paso	8.00	7.50	8.50	11.80
	Pueblo	7.50	8.00	11.00	12.80
	Denver	8.00	8.50	11.50	13.20
	Kansas City	8.00	8.50	11.00	14.20
Las Cruces, "	El Paso	1.50	2.00	3.00	4.00
	Pueblo	8.00	7.50	8.50	11.80
	Denver	7.50	8.00	11.00	12.80
	Kansas City	8.00	8.50	11.00	13.20
Rincon, "	El Paso	2.00	2.00	3.00	4.00
	Pueblo	6.50	7.00	9.00	10.80
	Denver	7.00	7.50	10.00	11.80
	Kansas City	7.00	7.50	10.00	12.80

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FROM	TO	Car Loads in dollars and per ton of 2,000 lbs.			
		Ore Concentrator		Lead Bullion, valuation not to exceed \$100 per ton.	
		Valuation not to exceed \$50 per ton.	Valuation not to exceed \$100 per ton.	Valuation not to exceed \$500 per ton.	Base Metal, Copper Matte, Bar and Black Copper, valuation not to exceed \$300 per ton.
Engle, N. M.	El Paso	2.20	2.60	3.60	5.00
	Pueblo	6.50	7.00	9.00	10.20
	Denver	7.00	7.50	10.50	11.40
	Kansas City	7.50	8.00	11.00	12.20
Lava, "	El Paso	2.20	2.60	3.60	5.40
	Pueblo	6.50	7.00	9.00	10.00
	Denver	7.00	7.50	10.50	11.00
	Kansas City	7.50	8.00	11.00	12.00
San Marcial, "	El Paso	2.40	3.00	4.50	5.60
	Pueblo	6.20	6.70	8.70	9.80
	Denver	6.70	7.20	9.20	10.30
	Kansas City	7.20	7.70	10.20	11.30
Carthage, "	El Paso	2.60	3.20	4.70	5.80
	Pueblo	6.20	6.70	8.70	9.80
	Denver	6.70	7.20	9.20	10.30
	Kansas City	7.20	7.70	10.20	11.30
San Antonio, "	El Paso	2.40	3.20	4.70	5.80
	Pueblo	6.20	6.70	8.70	9.80
	Denver	6.70	7.20	9.20	10.30
	Kansas City	7.20	7.70	10.20	11.30
Magdalena, "	El Paso	2.80	3.60	5.10	6.20
	Pueblo	6.00	6.50	8.50	9.60
	Denver	6.50	7.00	9.00	10.10
	Kansas City	7.00	7.50	10.00	11.10
Socorro, "	El Paso	2.60	3.20	4.70	5.80
	Pueblo	6.00	6.50	8.50	9.60
	Denver	6.50	7.00	9.00	10.10
	Kansas City	7.00	7.50	10.00	11.10
Albuquerque, "	El Paso	3.00	4.00	5.50	7.00
	Pueblo	4.50	5.00	7.00	8.40
	Denver	5.00	5.50	8.00	9.40
	Kansas City	5.50	6.00	8.50	10.40
Bernalillo, "	El Paso	3.20	4.20	5.70	7.20
	Pueblo	4.20	4.70	6.70	8.20
	Denver	4.70	5.20	7.20	8.70
	Kansas City	5.20	5.70	7.70	9.20
Wallace, "	El Paso	3.40	4.40	5.90	7.40
	Pueblo	4.20	4.70	6.70	8.20
	Denver	4.70	5.20	7.20	8.70
	Kansas City	5.20	5.70	7.70	9.20
Los Cerillos, "	El Paso	3.60	4.60	6.10	7.60
	Pueblo	4.00	4.50	6.50	8.00
	Denver	4.50	5.00	7.00	8.40
	Kansas City	5.00	5.50	7.50	9.00
Flagstaff, A. T.	El Paso	6.50	8.00	10.00	12.00
	Pueblo	7.50	9.00	11.00	13.00
	Denver	8.00	9.50	11.50	14.00
	Kansas City	8.50	10.00	12.00	14.00
Peach Spgs, Hackberry, "	El Paso	7.50	9.00	11.25	13.25
	Pueblo	8.00	9.50	11.75	13.75
	Denver	8.50	10.00	12.25	14.25
	Kansas City	9.00	10.50	12.75	14.75
Kingman, "	El Paso	7.50	9.00	11.25	13.25
	Pueblo	8.00	9.50	11.75	13.75
	Denver	8.50	10.00	12.25	14.25
	Kansas City	9.00	10.50	12.75	14.75
Yucca, "	El Paso	7.50	9.00	11.25	13.25
	Pueblo	8.00	9.50	11.75	13.75
	Denver	8.50	10.00	12.25	14.25
	Kansas City	9.00	10.50	12.75	14.75
Needles, Cal.	El Paso	7.75	9.25	11.50	13.50
	Pueblo	8.50	10.00	12.25	14.25
	Denver	9.00	10.50	12.75	14.75
	Kansas City	9.50	11.00	13.25	15.25
Fenner, "	El Paso	8.25	9.75	12.00	14.00
	Pueblo	9.00	10.50	12.75	14.75
	Denver	9.50	11.00	13.25	15.25
	Kansas City	10.00	11.50	13.75	15.75
Bagdad, "	El Paso	8.50	10.00	12.25	14.25
	Pueblo	9.00	10.50	12.75	14.75
	Denver	9.50	11.00	13.25	15.25
	Kansas City	10.00	11.50	13.75	15.75
Daggett, "	El Paso	8.00	10.00	12.00	14.00
	Pueblo	9.00	11.00	13.00	15.00
	Denver	10.00	12.00	14.00	16.00
	Kansas City	11.00	13.00	15.00	17.00
Barstow, "	El Paso	8.00	10.00	12.00	14.00
	Pueblo	9.00	11.00	13.00	15.00
	Denver	10.00	12.00	14.00	16.00
	Kansas City	11.00	13.00	15.00	17.00
Kramer, "	El Paso	8.50	11.00	13.50	16.00
	Pueblo	9.50	12.00	14.50	17.00
	Denver	10.50	13.00	15.50	18.00
	Kansas City	11.50	14.00	16.50	19.00
Mojave, "	El Paso	10.00	11.50	13.50	15.50
	Pueblo	11.00	12.50	14.50	16.50
	Denver	12.00	13.50	15.50	17.50
	Kansas City	13.00	14.50	16.50	18.50

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Especial Attention to Sampling by most Approved Processes.

Quick Returns on all Consignments.

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Special Facilities for Handling ores from the South-West and Mexico

EVERETT

WASHINGTON

Turbine
AND
Cascade

WATER WHEEL

Adapted to all Heads from

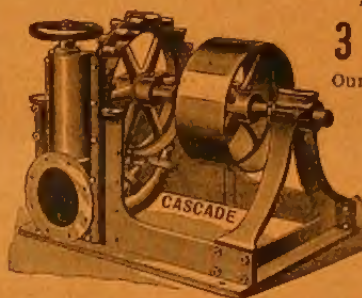
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Our experience of 33 YEARS building Water Wheels enables us to suit every requirement of Water Power Plants. We guarantee satisfaction.

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James Leffel & Co.

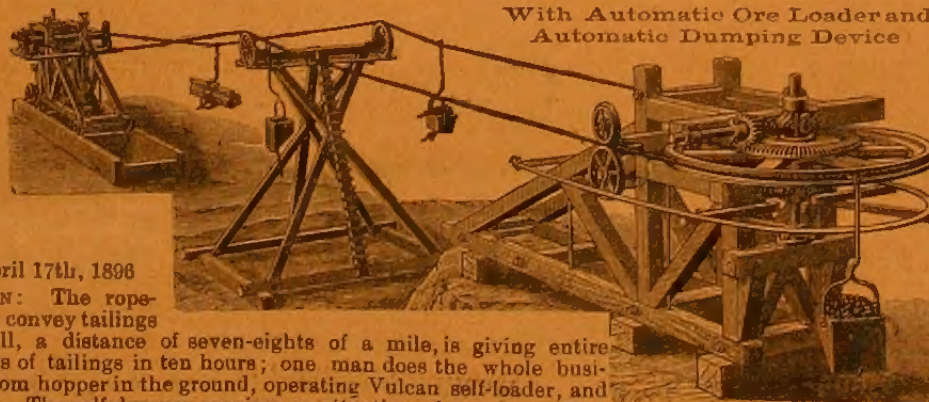
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VULCAN ROPEWAY

With Automatic Ore Loader and Automatic Dumping Device

For Conveying
Ore,
Cordwood,
Etc.



EMPIRE, NEVADA, April 17th, 1896

Vulcan Iron Works:—GENTLEMEN: The ropeway furnished by your Company to convey tailings from Morgan Mill to Mexican Mill, a distance of seven-eighths of a mile, is giving entire satisfaction. We transport 200 tons of tailings in ten hours; one man does the whole business, including elevating tailings from hopper in the ground, operating Vulcan self-loader, and attending to the ropeway generally. The self-dumper requires no attention whatever. The Vulcan loader I consider the best feature in the whole Ropeway, making it possible for one man to load 200 tons in ten hours.

Yours very truly,

J. P. WOODBURY, Supt.

VULCAN IRON WORKS,

Manufacturers of Mining Machinery,
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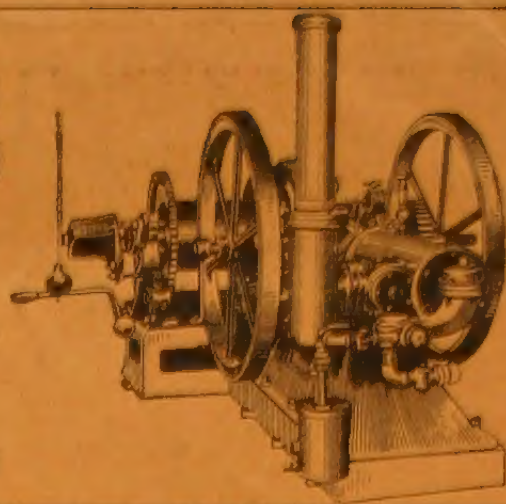
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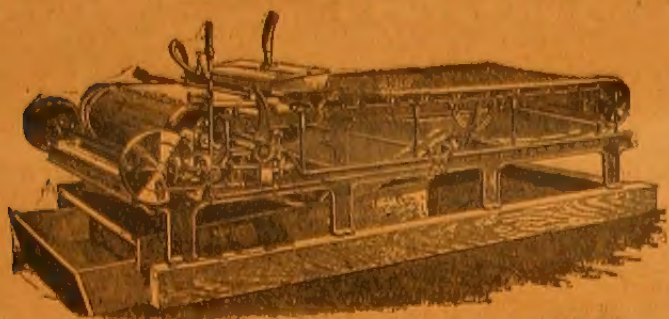
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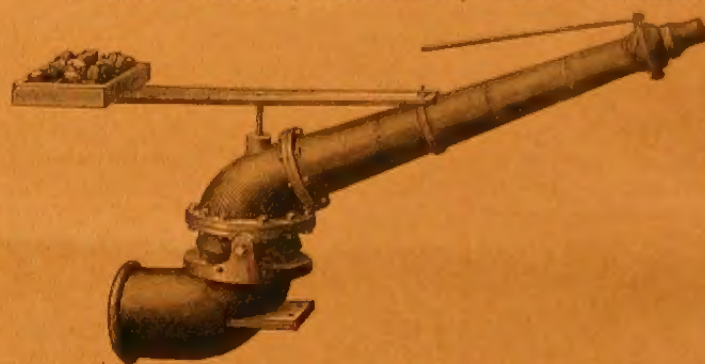
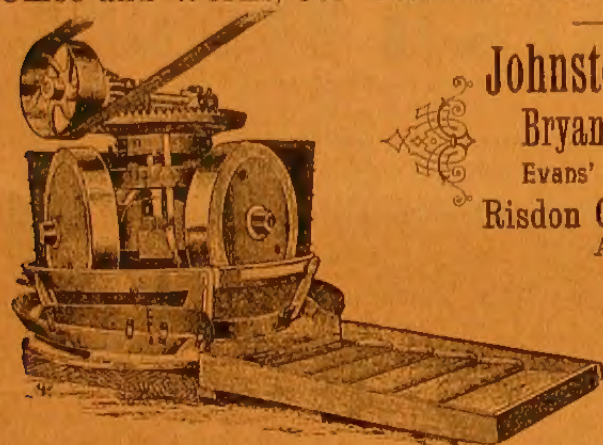
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